

**Appendix B - Power Spectral Density Plots for TSH 1 (0 - 150 Hz)**

SAMS-FF TSH 1 data collected during the STS-95 mission were used to generate the PSD plots in this appendix. These data were collected at a rate of 400 samples per second with an effective lowpass filter cutoff frequency of just over 100 Hz. The data in these PSDs are plotted out to a maximum frequency of 150 Hz. The plots are from recording sessions 3 through 43, with each plot except session 4 being comprised of 255 seconds worth of data. The time resolution used to compute the majority of the PSD plots was approximately 82 seconds, and the frequency resolution was 0.0122 Hz. Due to impulsive events in the time domain data, session 4 was limited to smaller overall time intervals resulting in a frequency resolution of 0.0488 Hz for this recording session. To produce the PSD plots, a Hanning window was used for successive time intervals and the resultant PSDs were averaged together to create the plots. The parameter  $k$  indicates the number of PSDs averaged together to produce the plots. Because axial relationships were particularly important to the HOST project, the PSDs were calculated for all three axes.

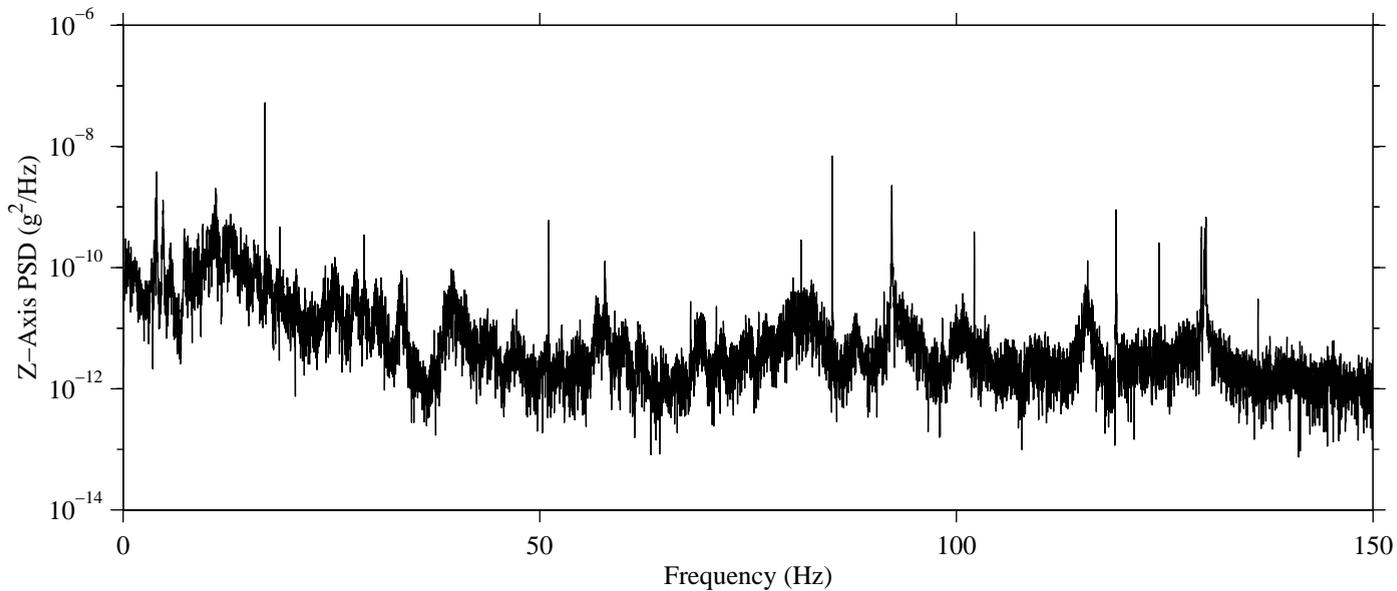
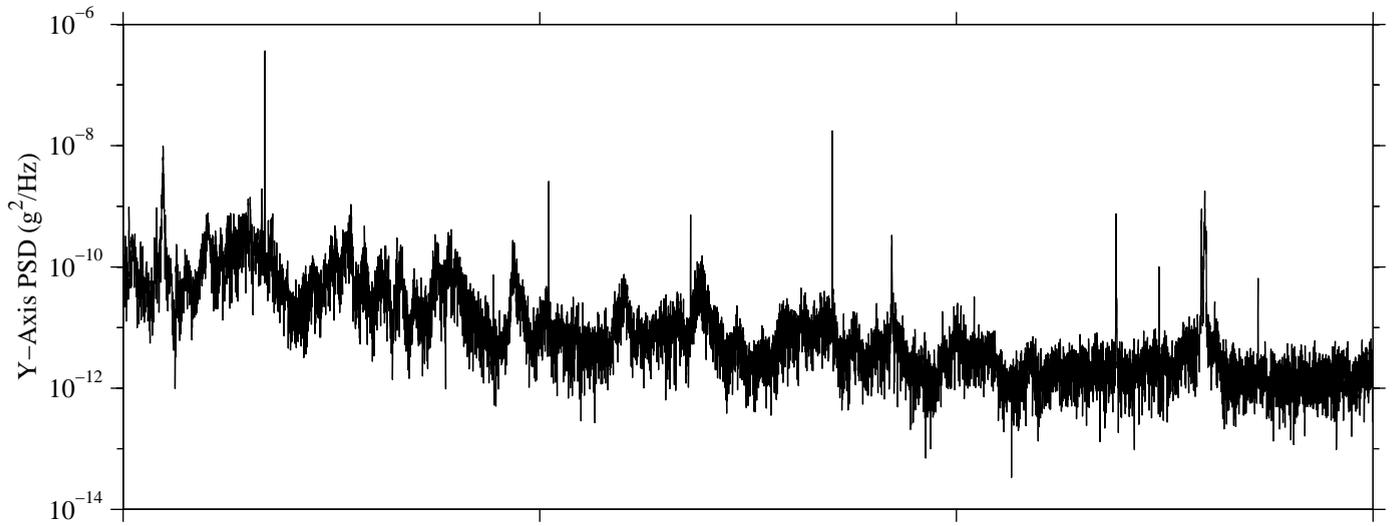
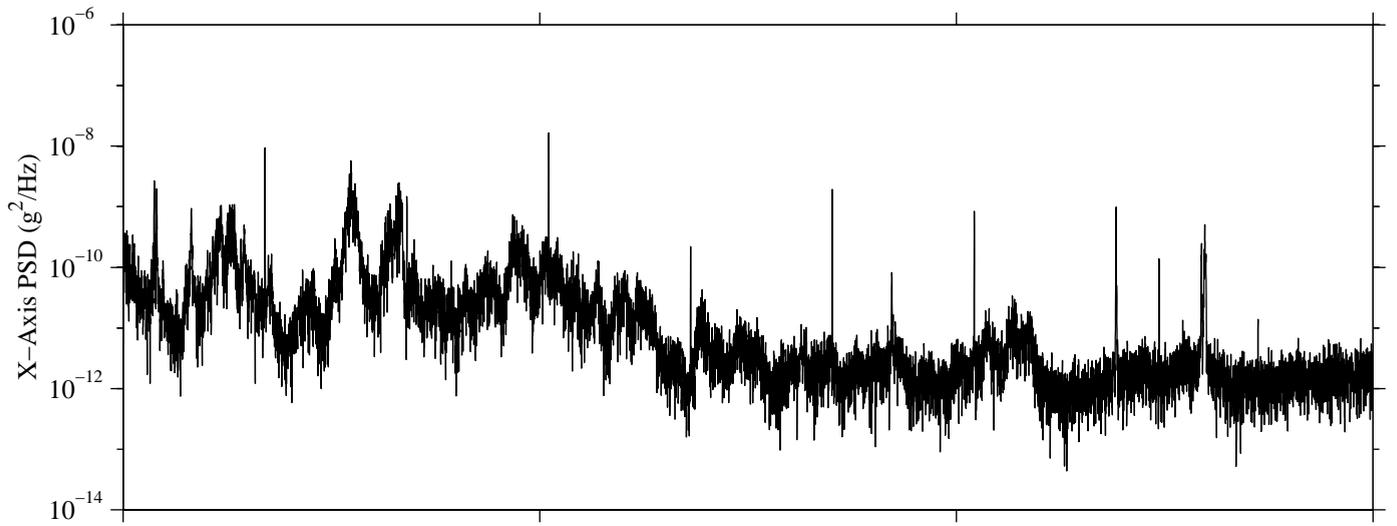
These PSDs are intended to provide a snapshot of the frequency domain environment for each recording session. Those interested in further details are encouraged to contact the PIMS team.

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Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #3  
MET Start at 000/05:58:24.008 (Hanning Window, k=3)

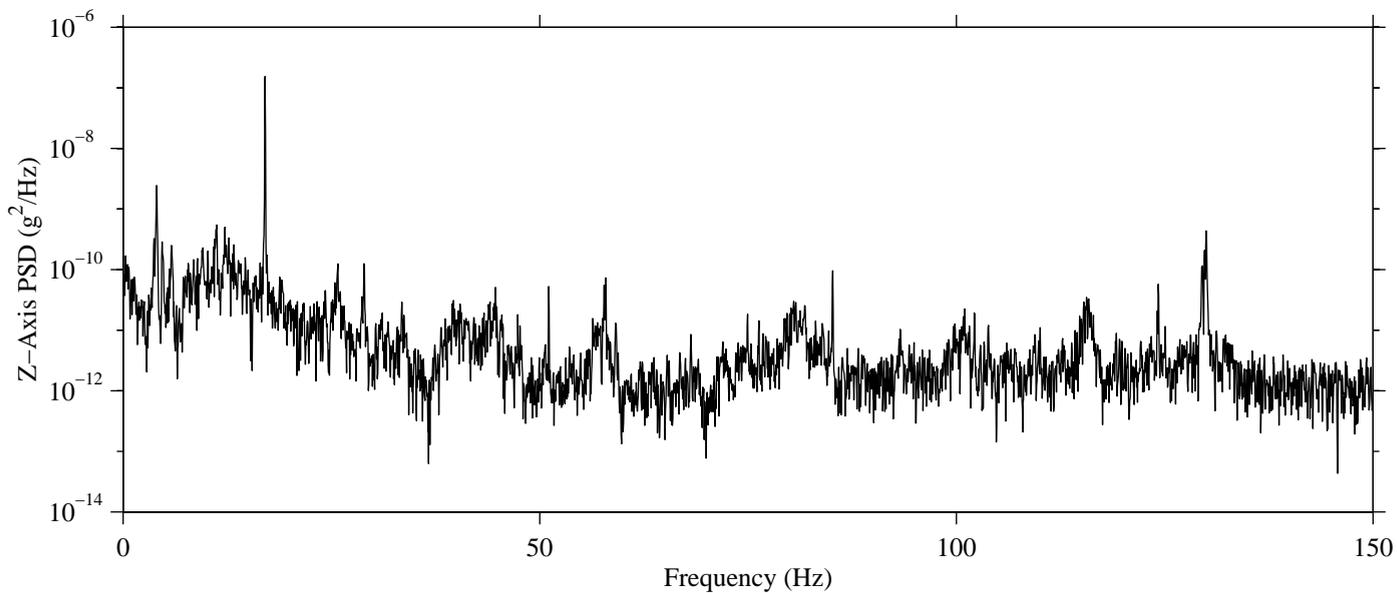
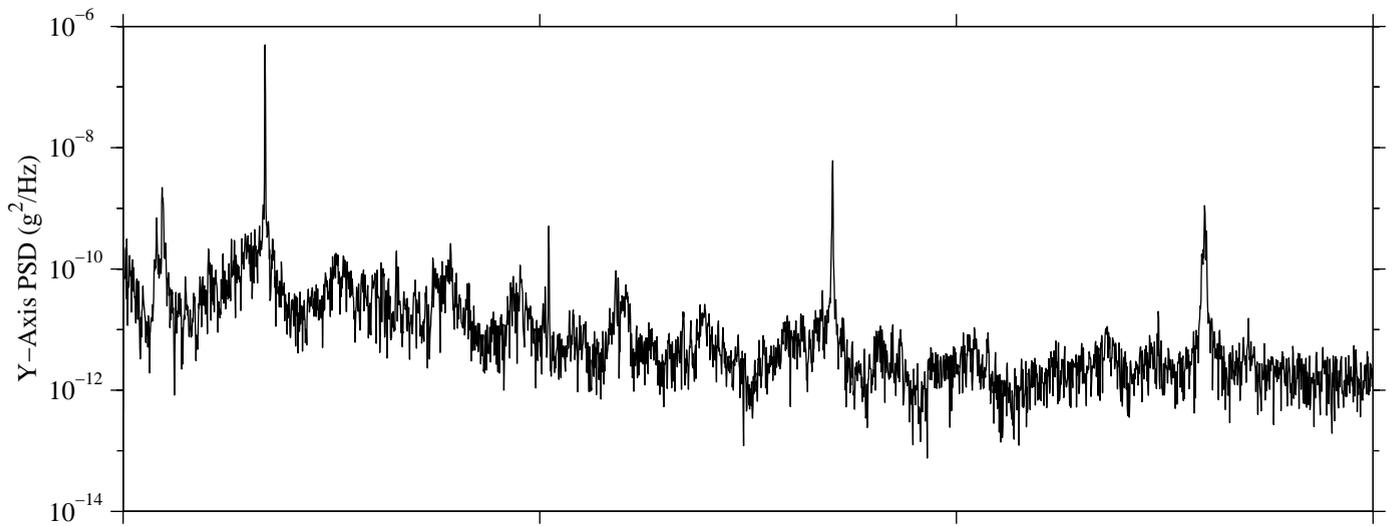
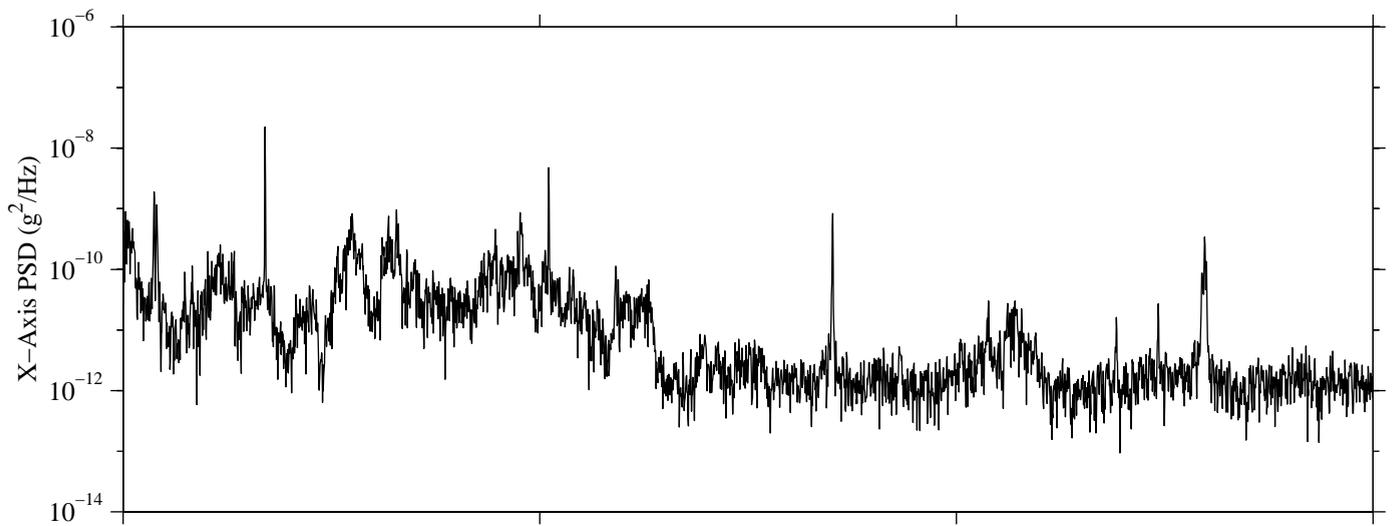
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 104.8 Hz  
fs=400 samples per second  
df=0.0488 Hz

Session #4  
MET Start at 000/06:16:23.939 (Hanning, k=3)

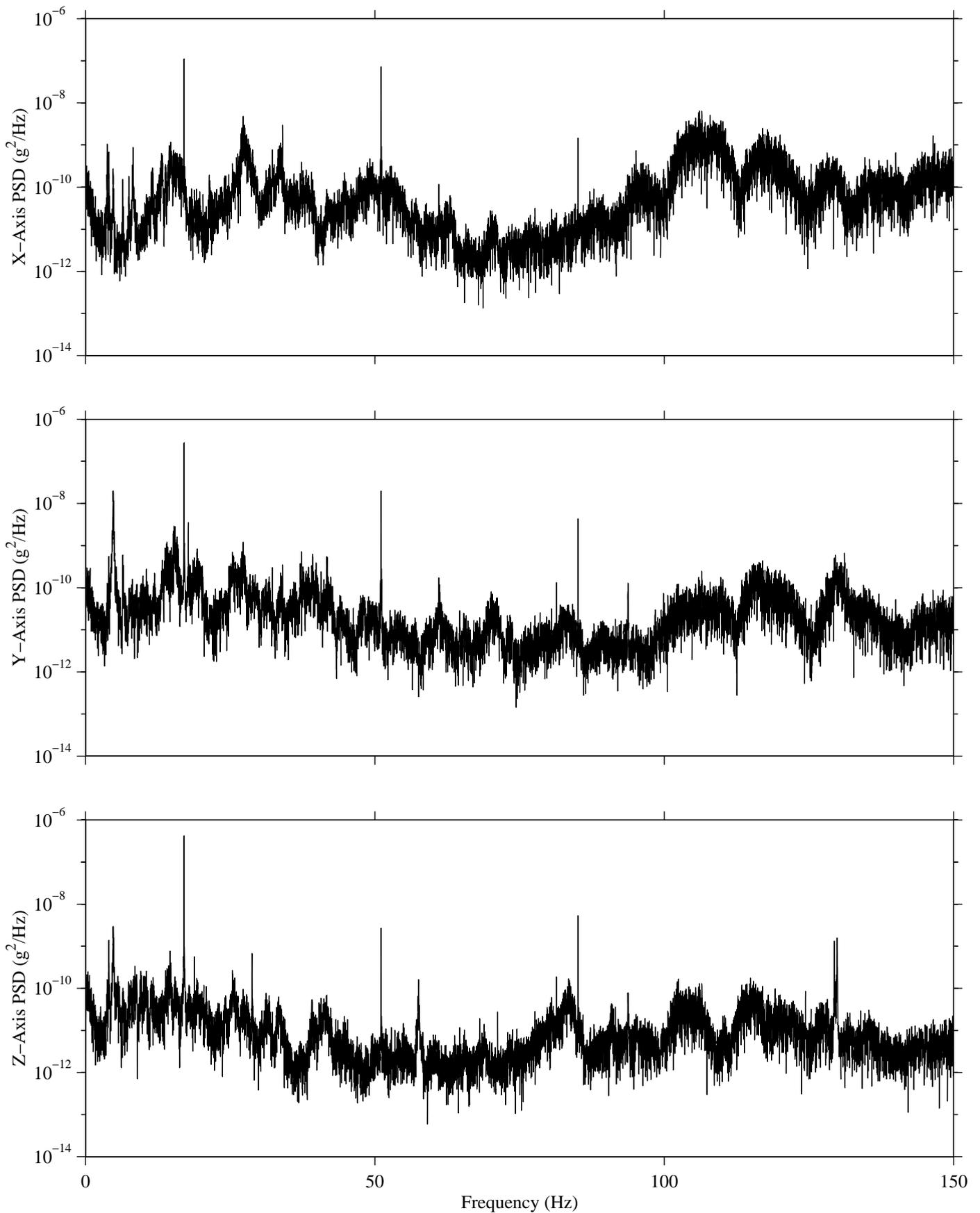
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=70.0 seconds



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #5  
MET Start at 000/19:52:15.298 (Hanning Window, k=3)

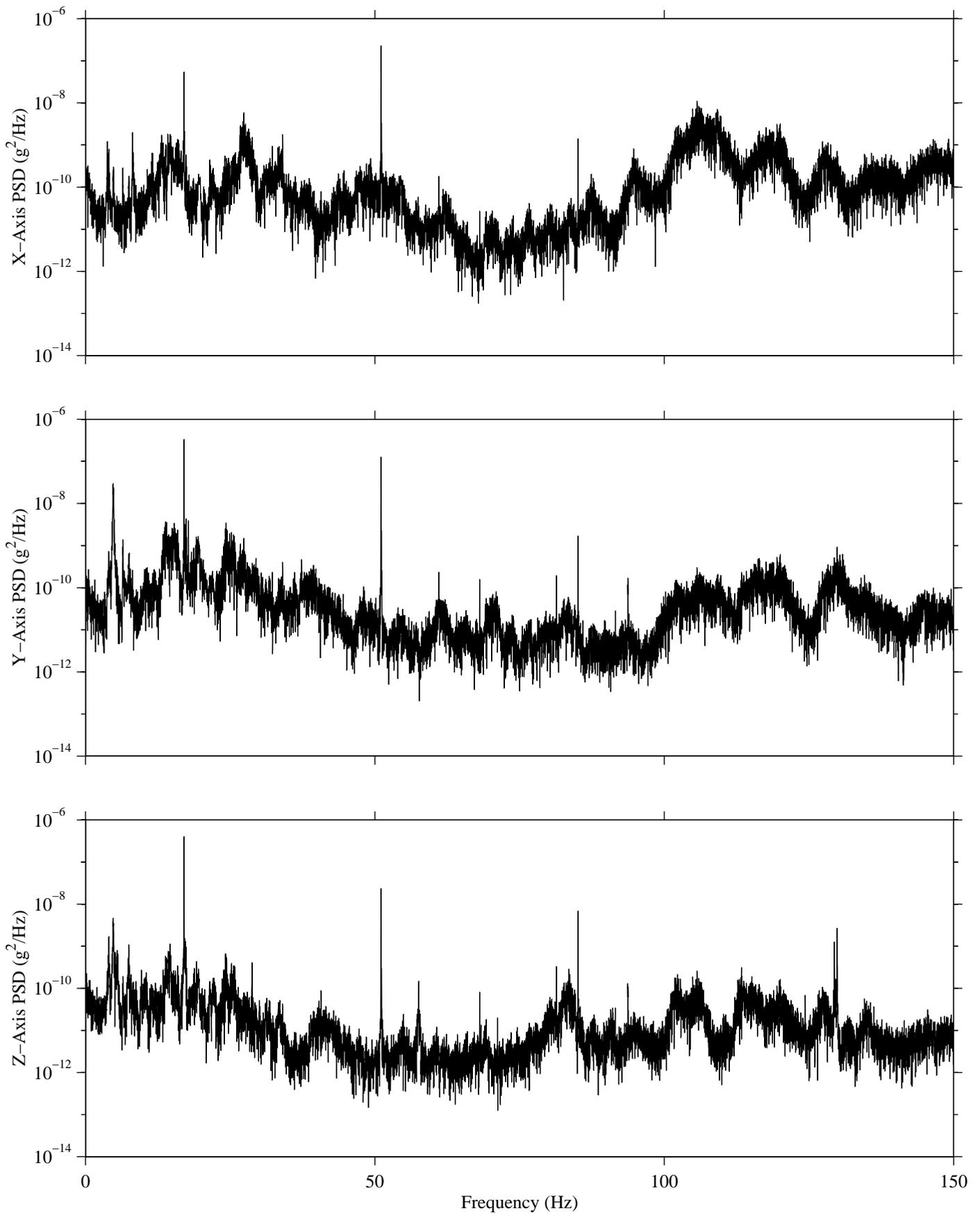
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #6  
MET Start at 000/19:59:11.268 (Hanning Window, k=3)

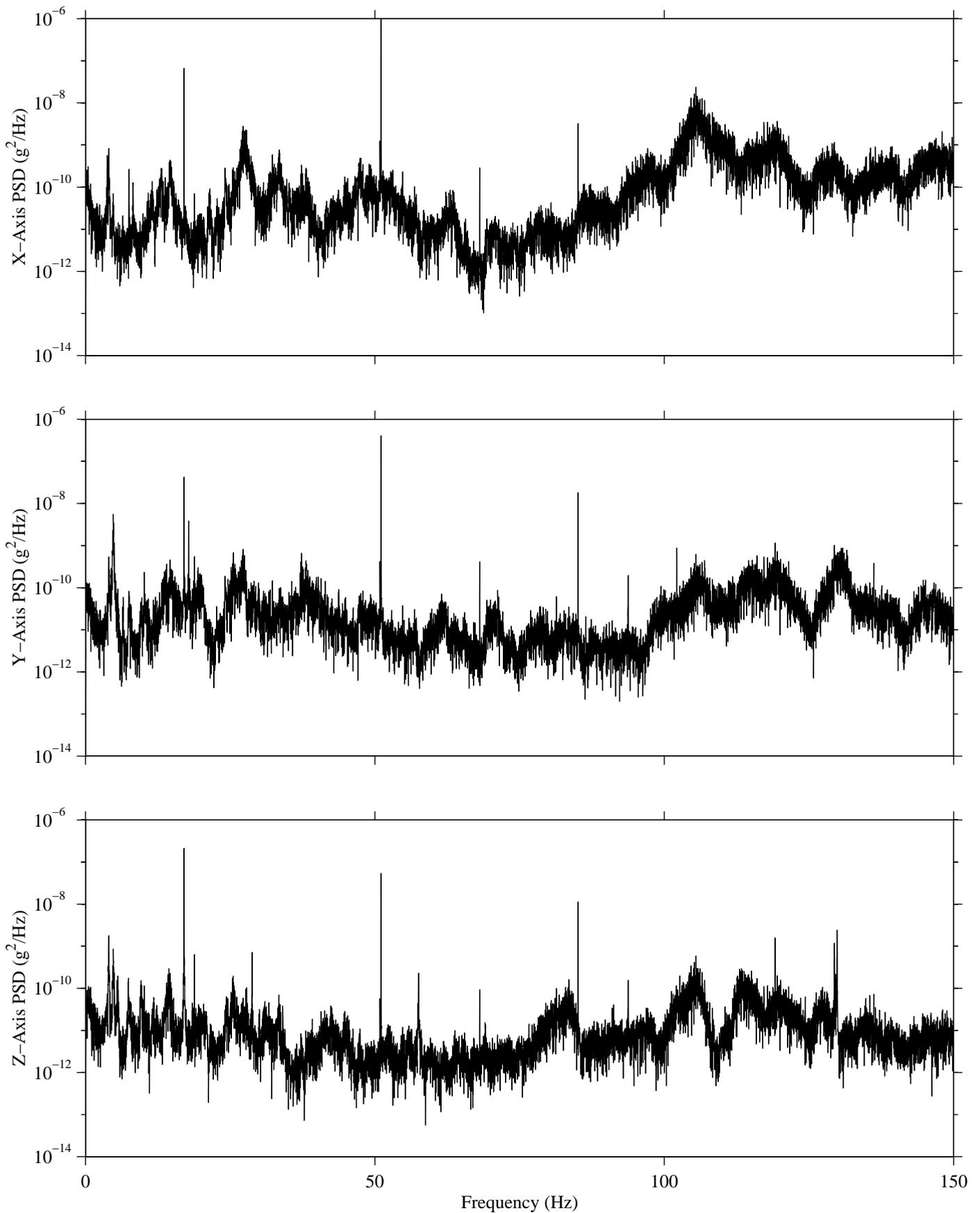
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #7  
MET Start at 000/20:11:54.225 (Hanning Window, k=3)

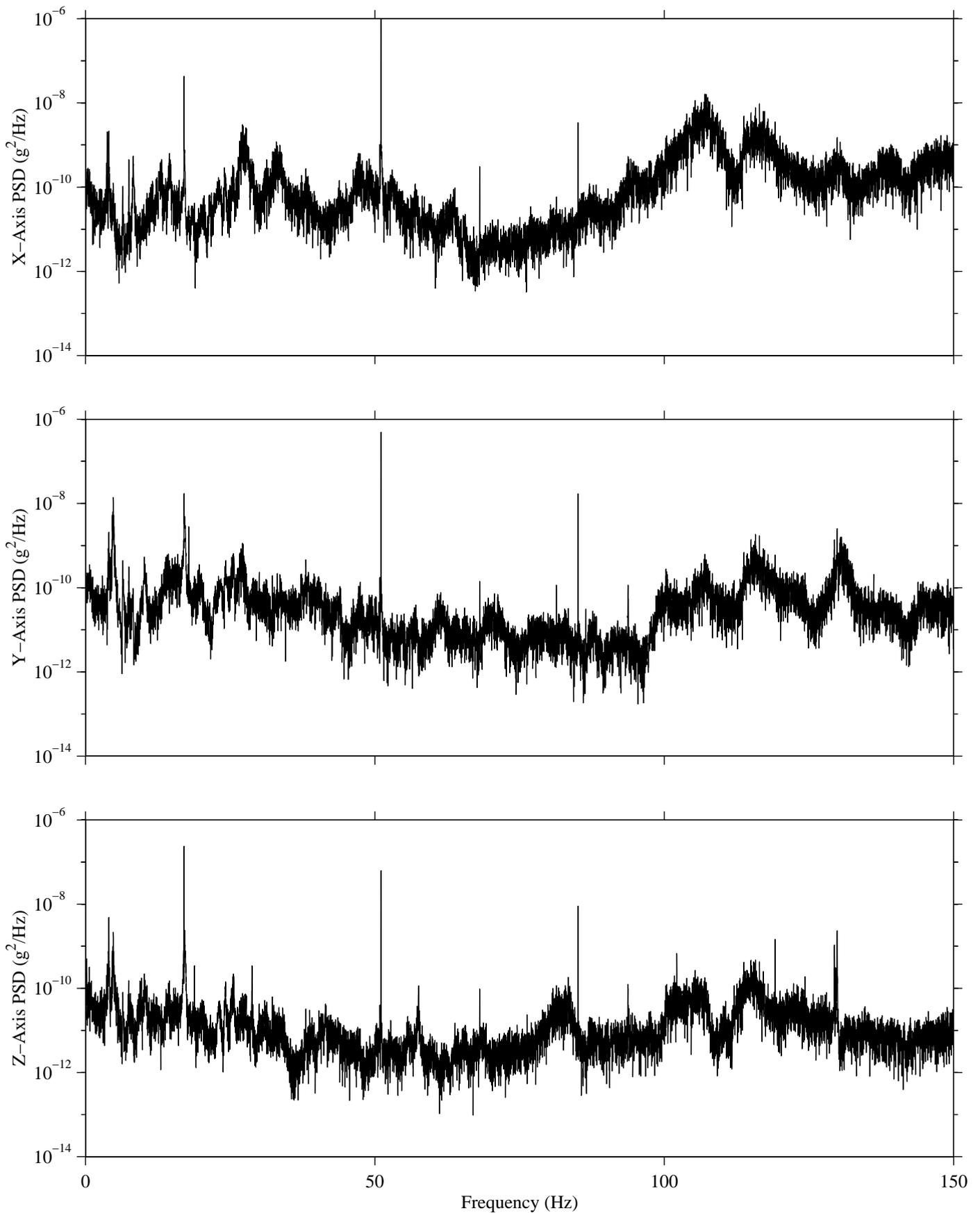
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #8  
MET Start at 000/20:17:56.201 (Hanning Window, k=3)

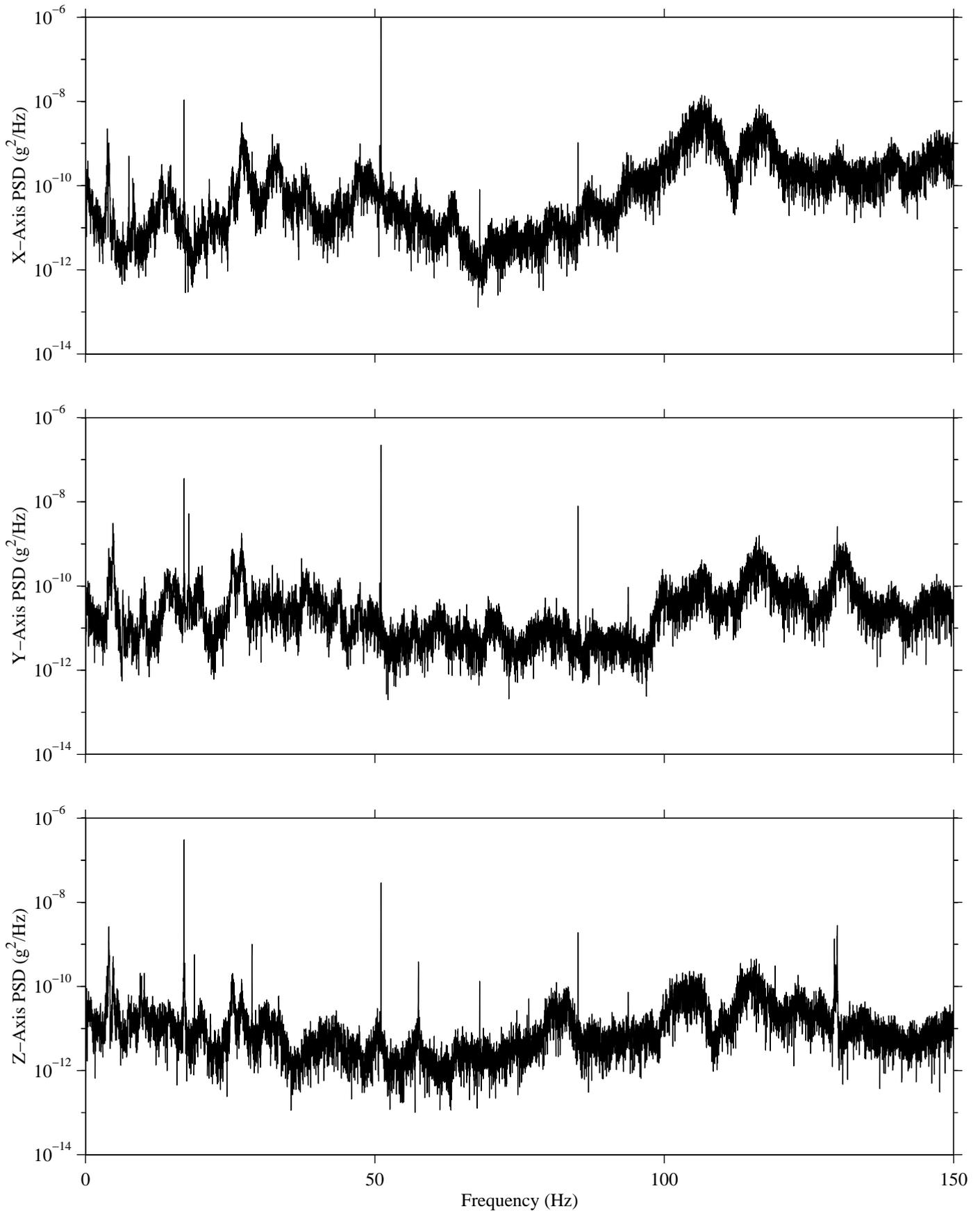
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #9  
MET Start at 000/20:23:48.177 (Hanning Window, k=3)

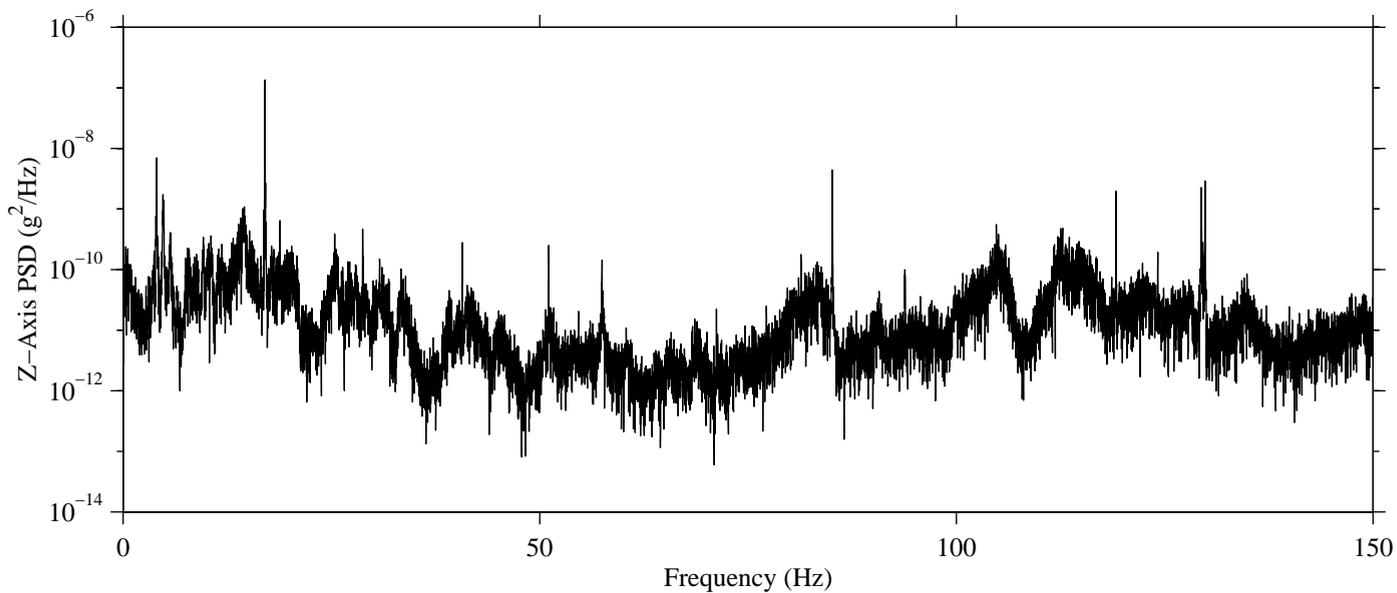
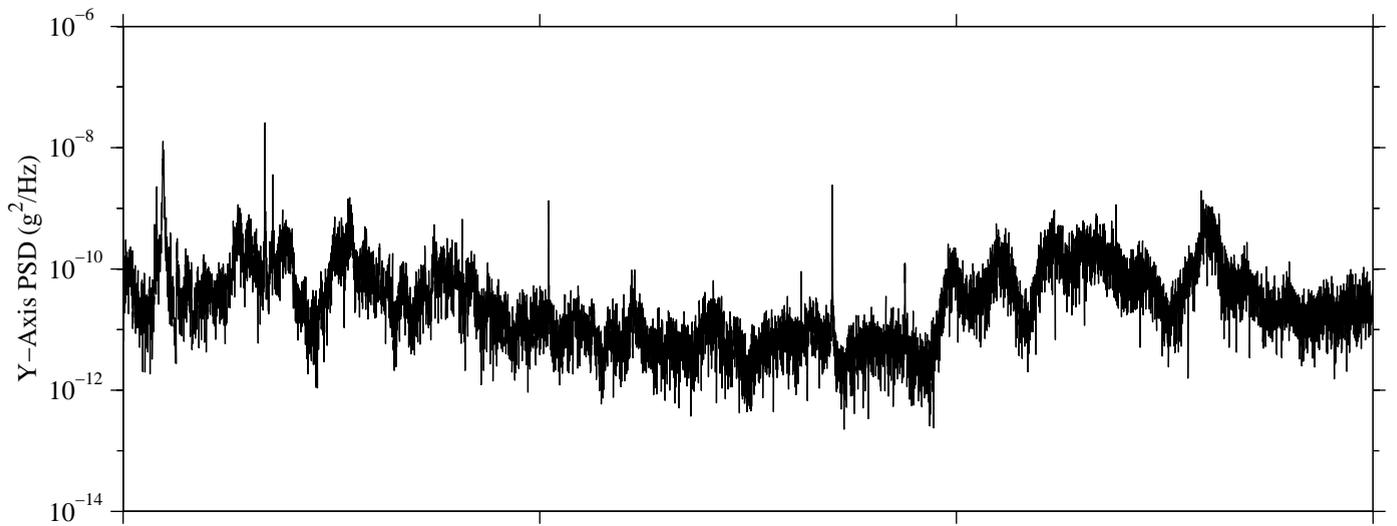
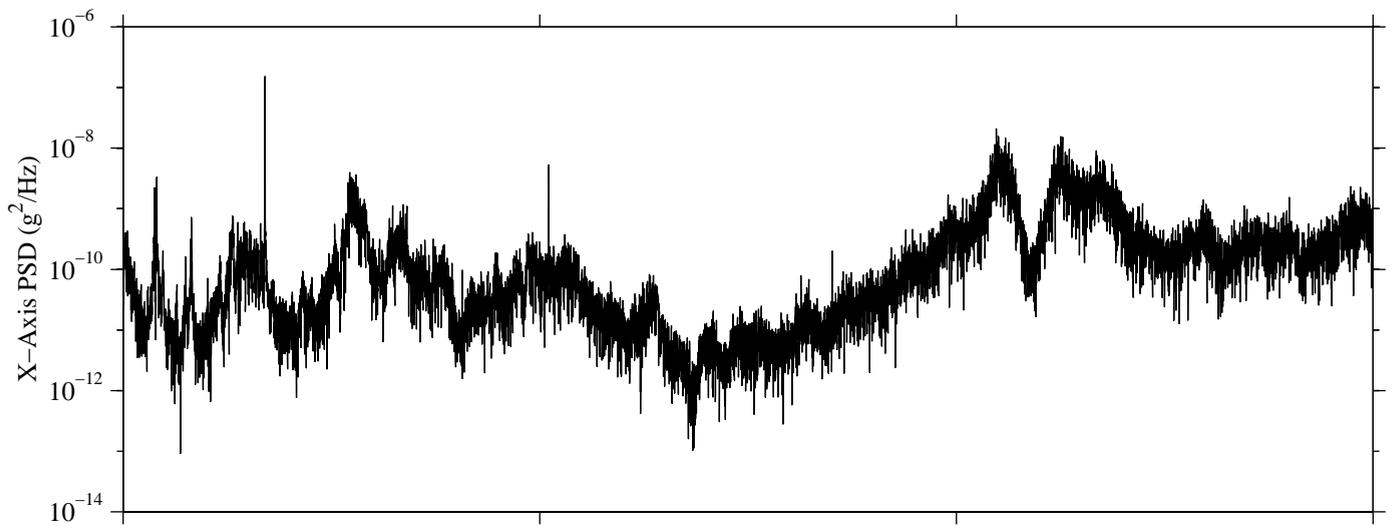
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #10  
MET Start at 000/21:26:47.916 (Hanning Window, k=3)

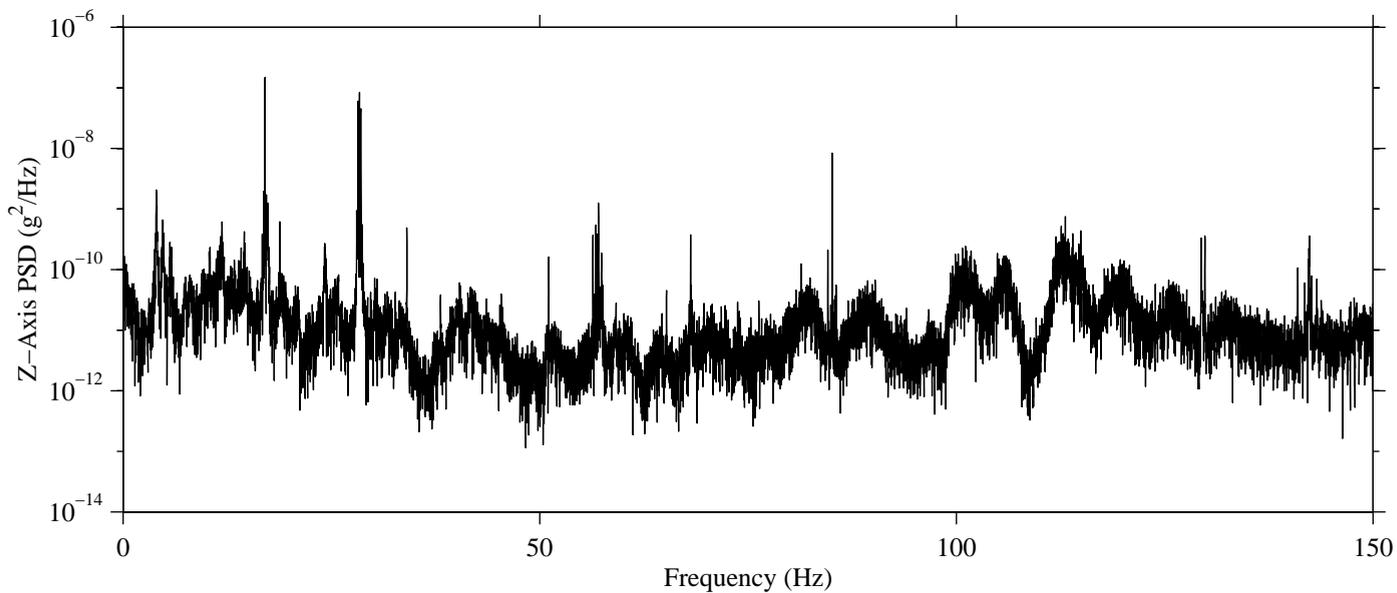
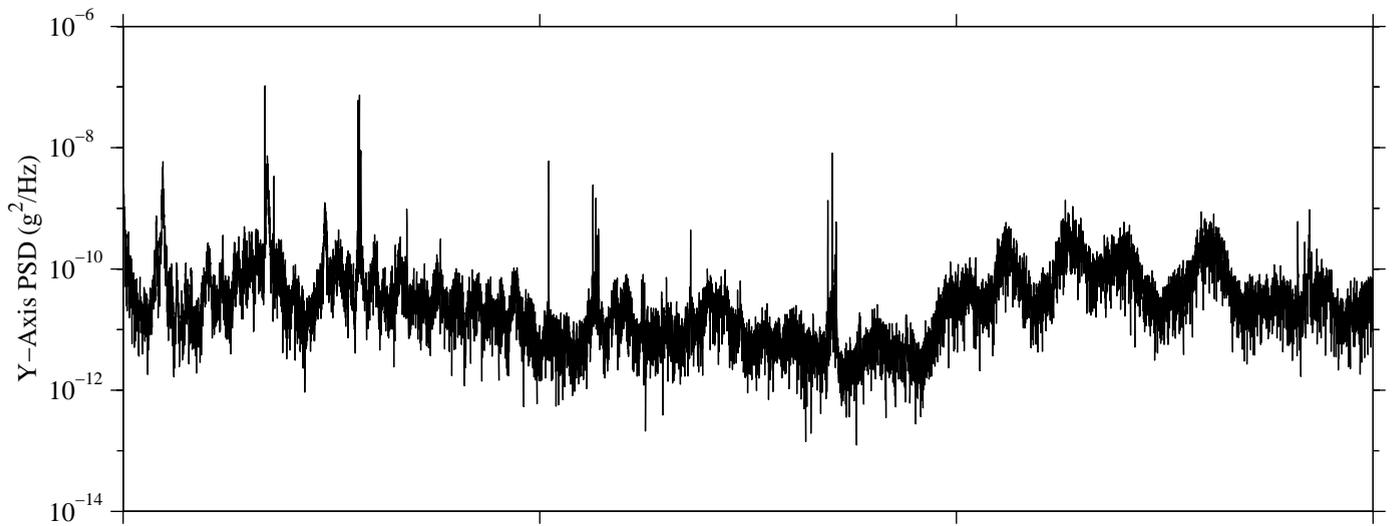
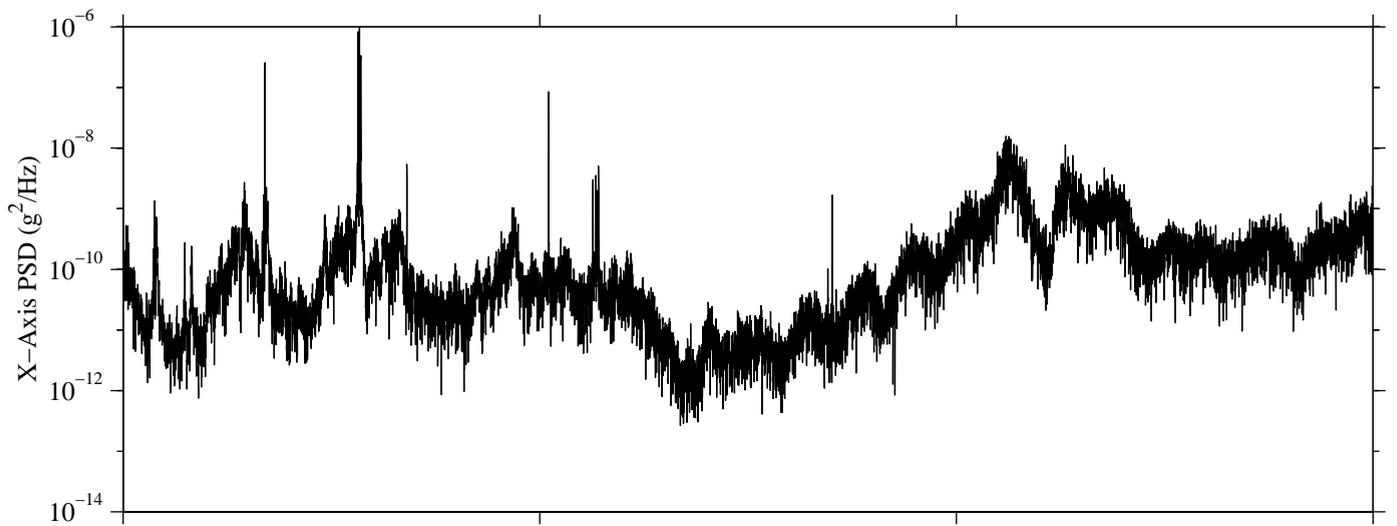
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #11  
MET Start at 001/00:58:30.047 (Hanning Window, k=3)

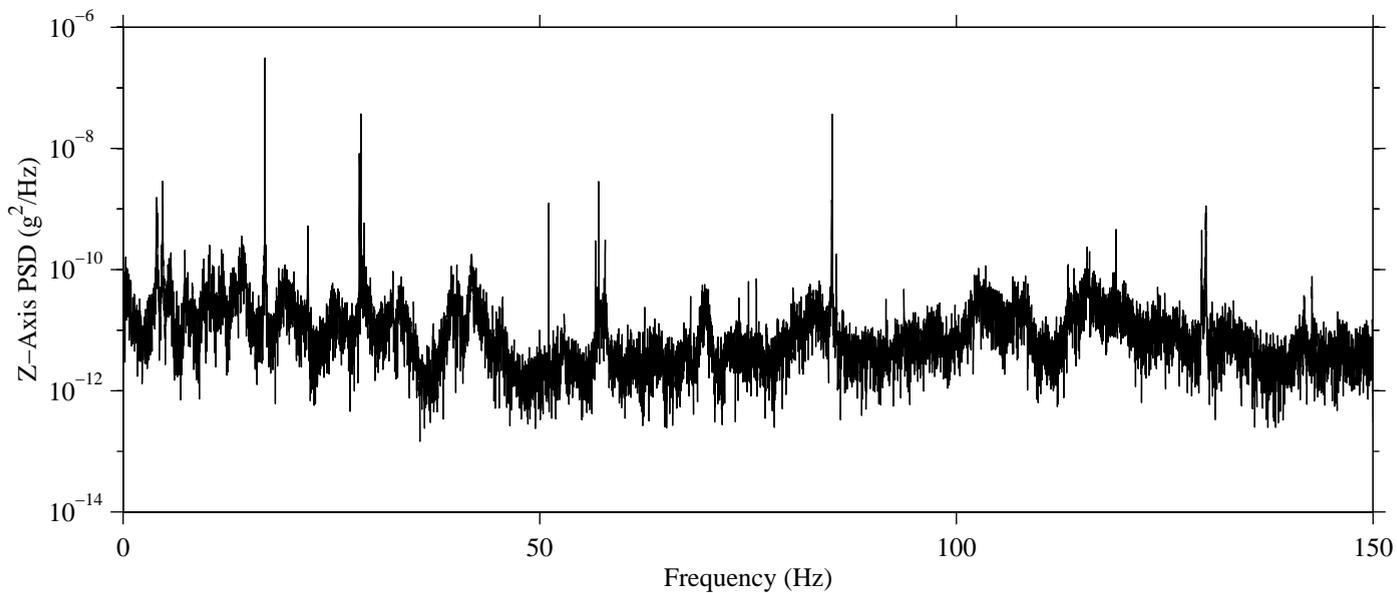
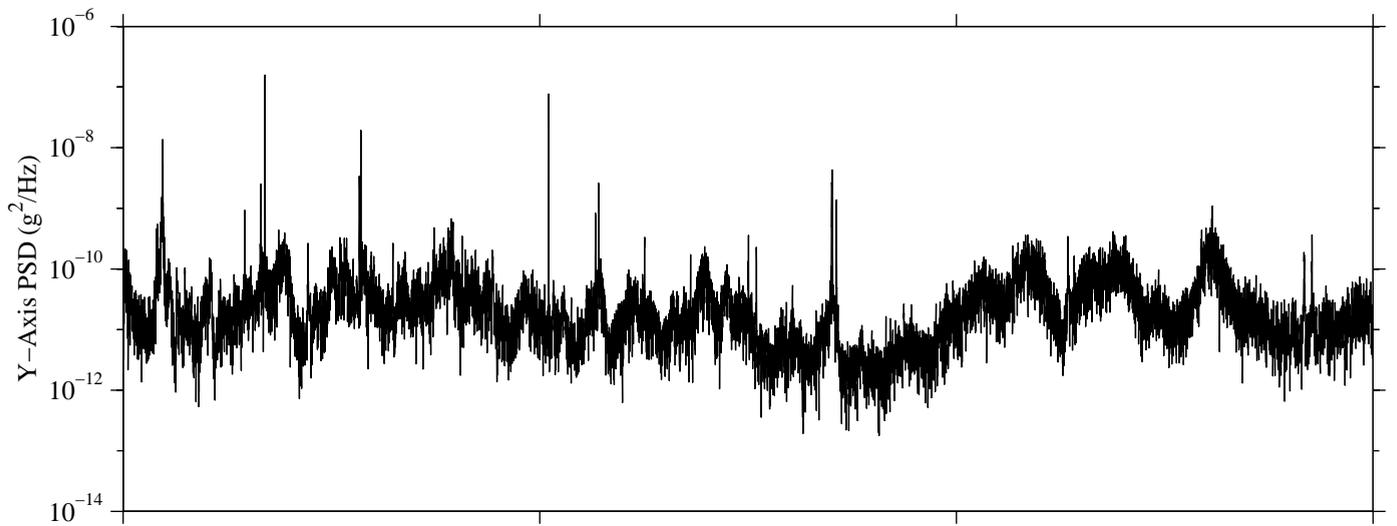
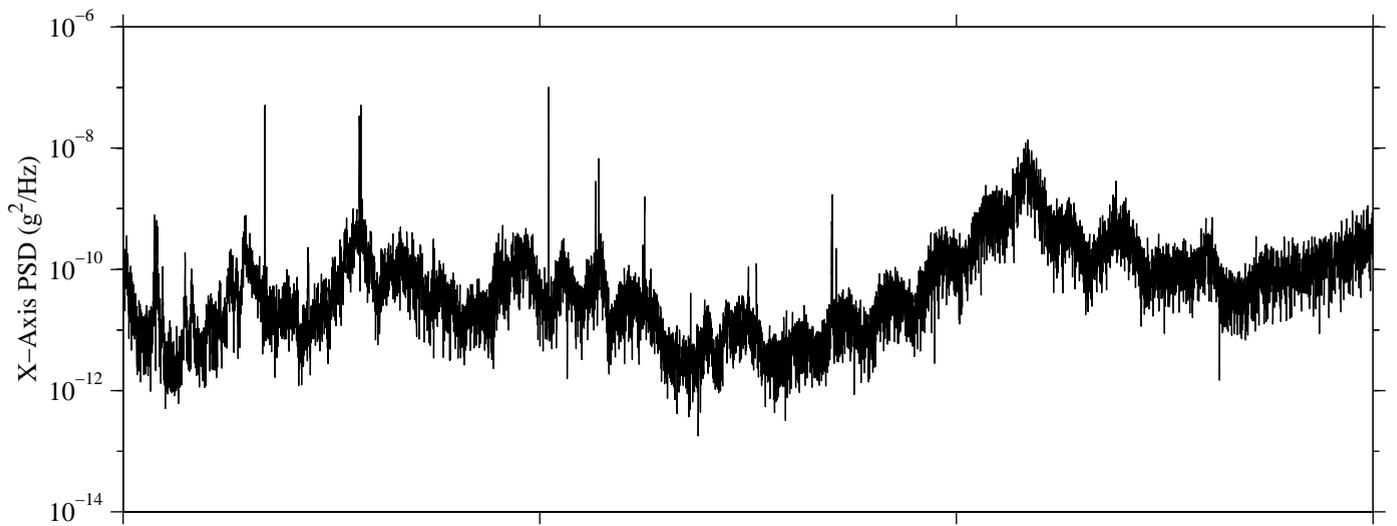
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #12  
MET Start at 001/14:22:40.953 (Hanning Window, k=3)

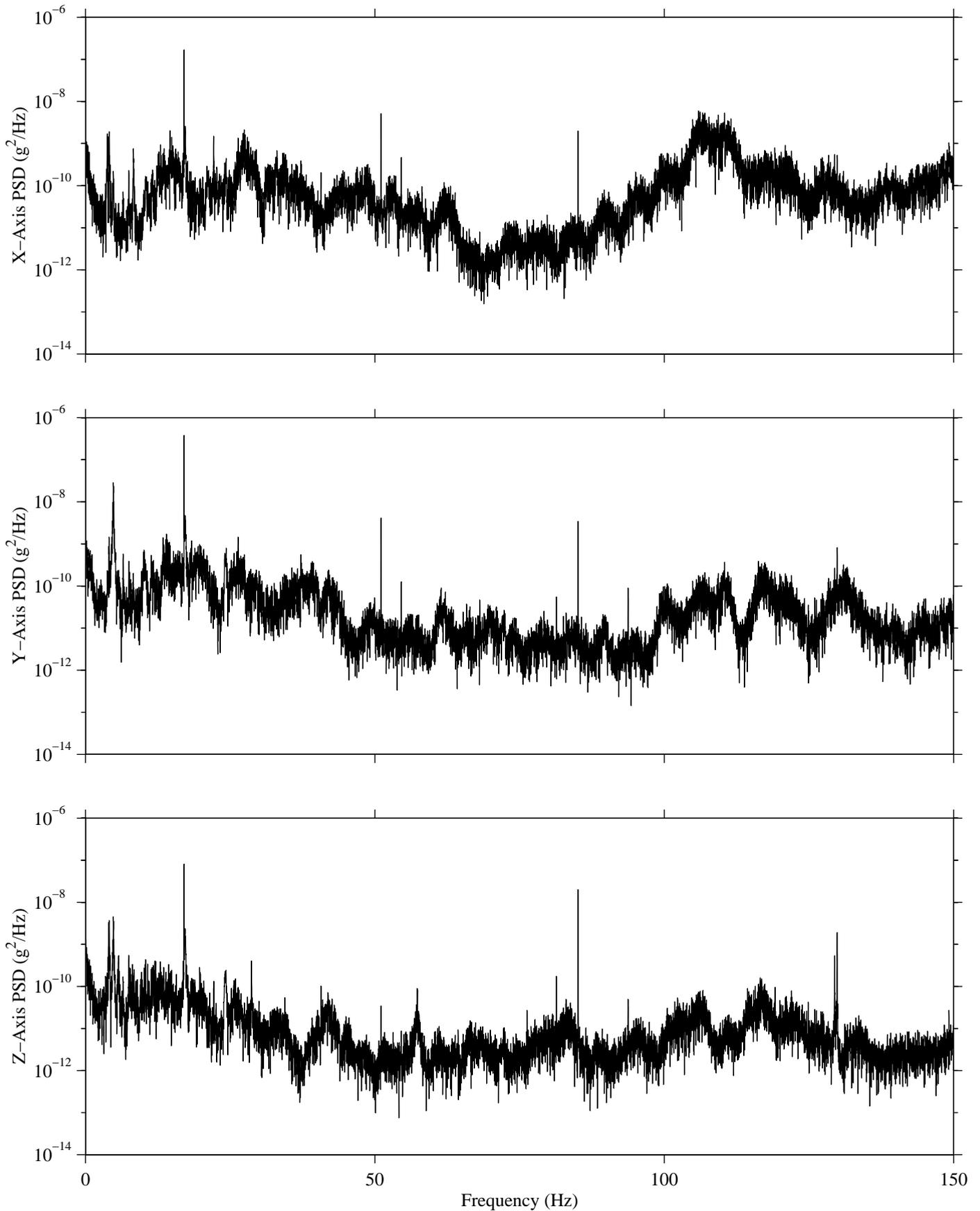
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #13  
MET Start at 001/16:41:12.381 (Hanning Window, k=3)

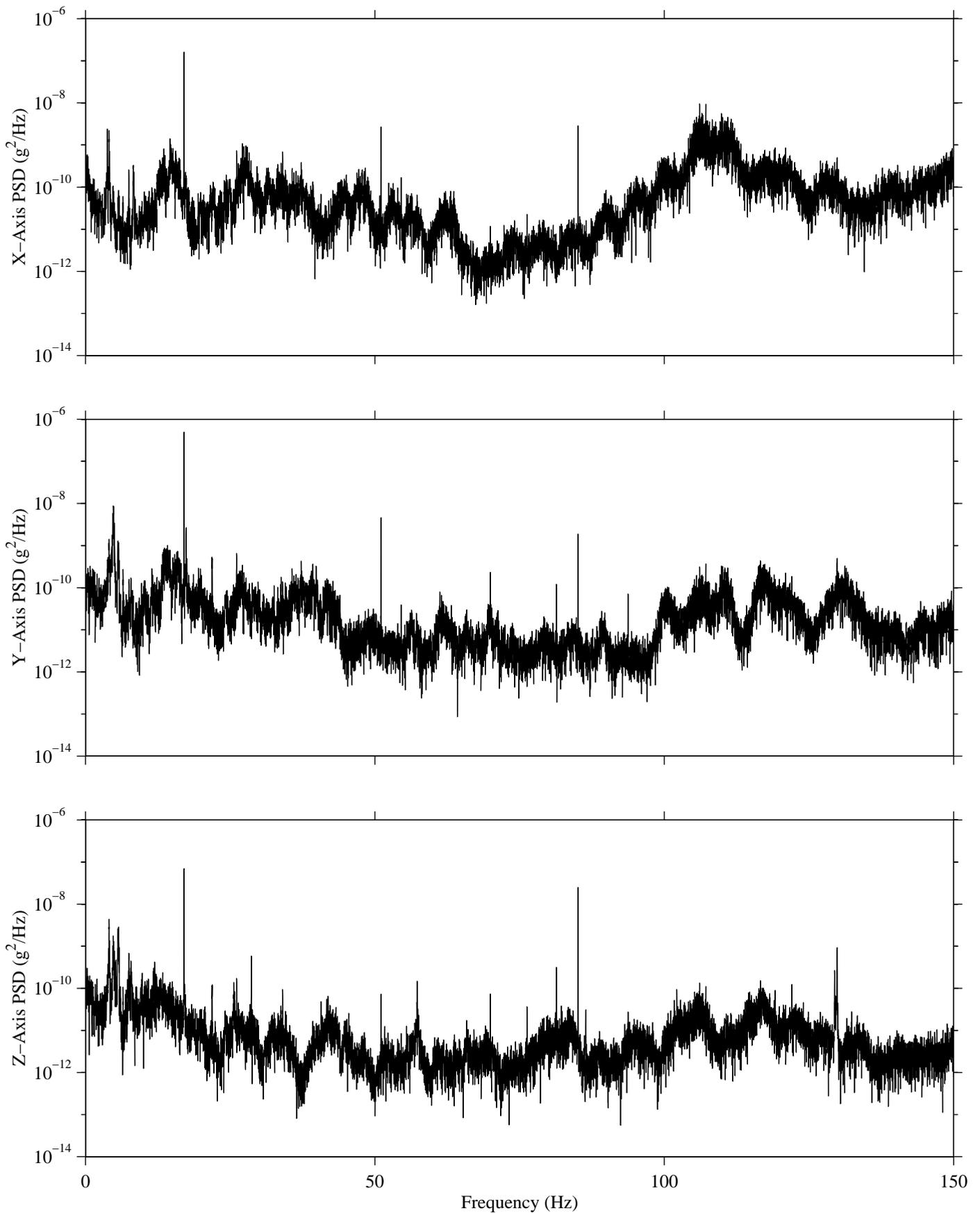
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #14  
MET Start at 001/16:46:34.369 (Hanning Window, k=3)

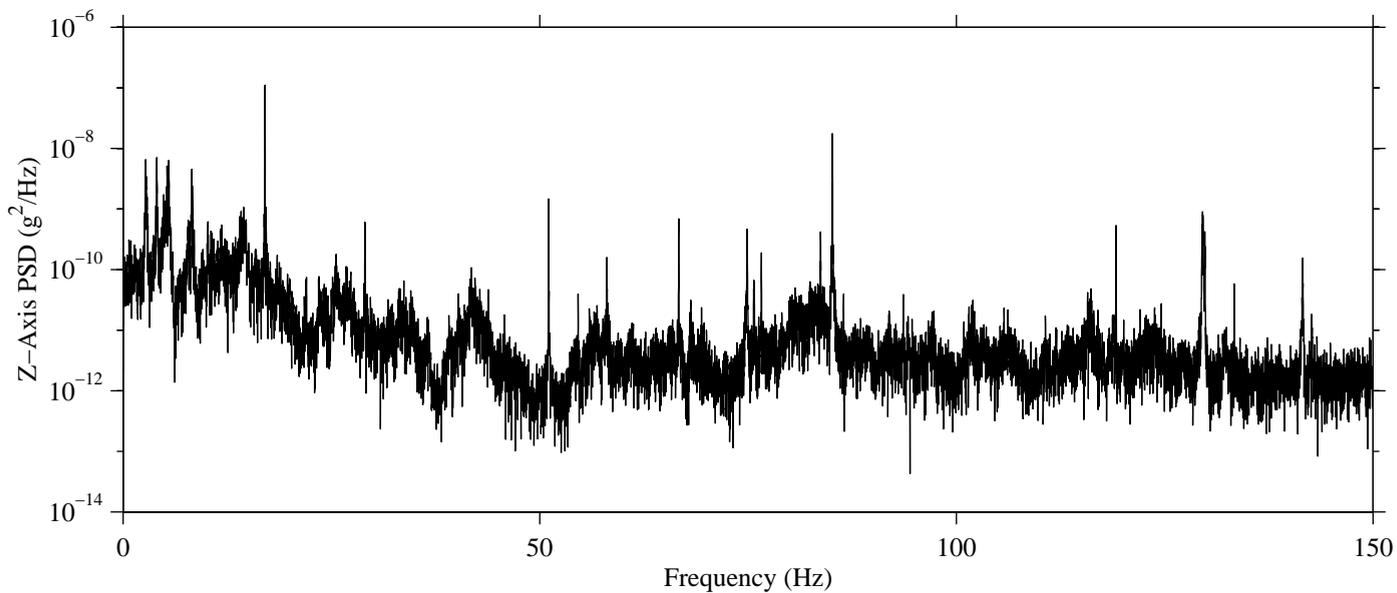
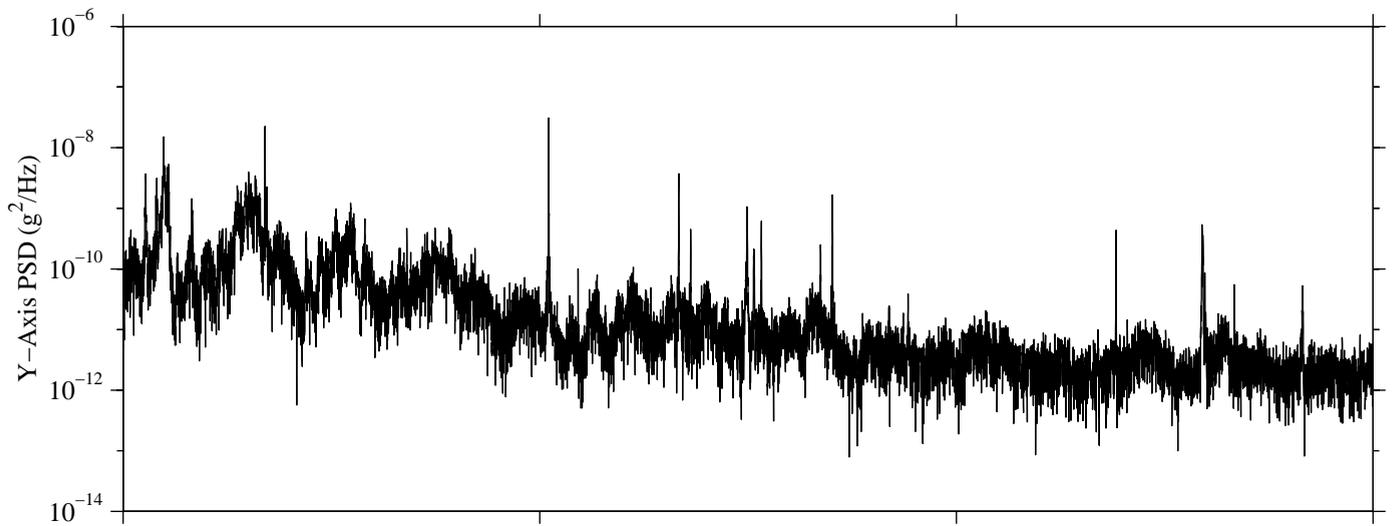
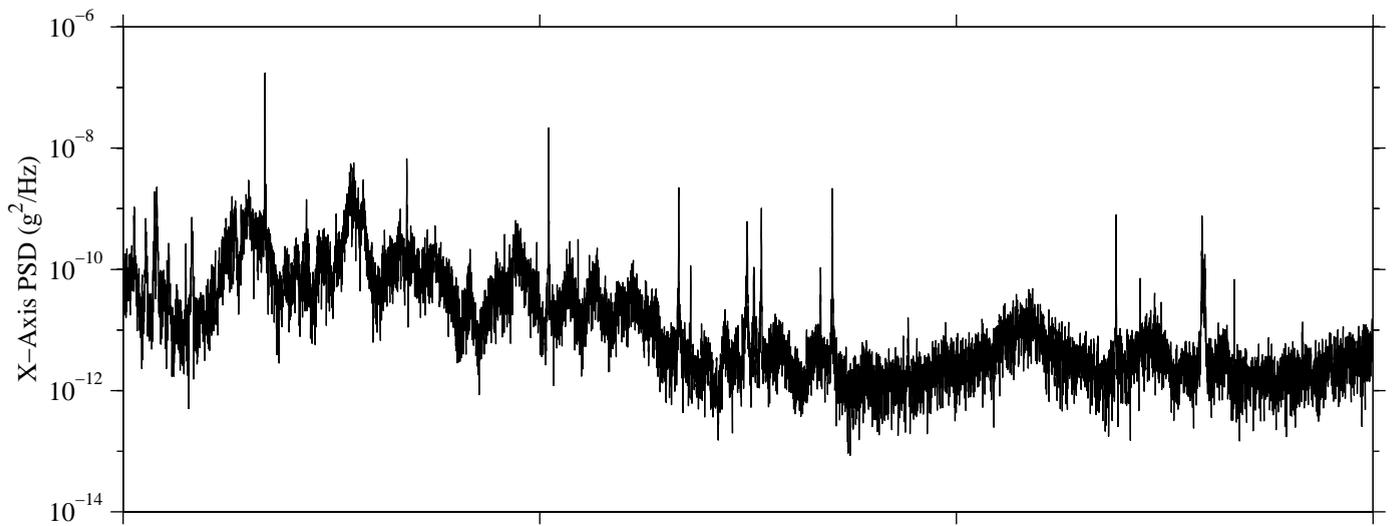
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #15  
MET Start at 002/04:23:58.240 (Hanning Window, k=3)

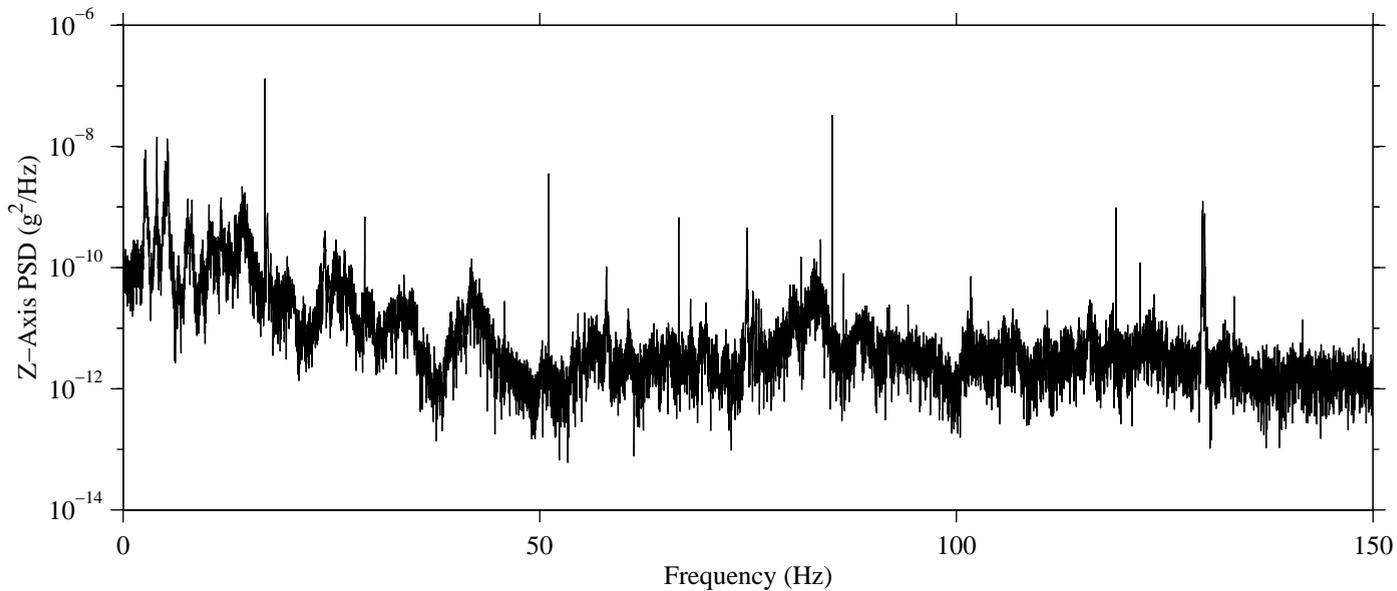
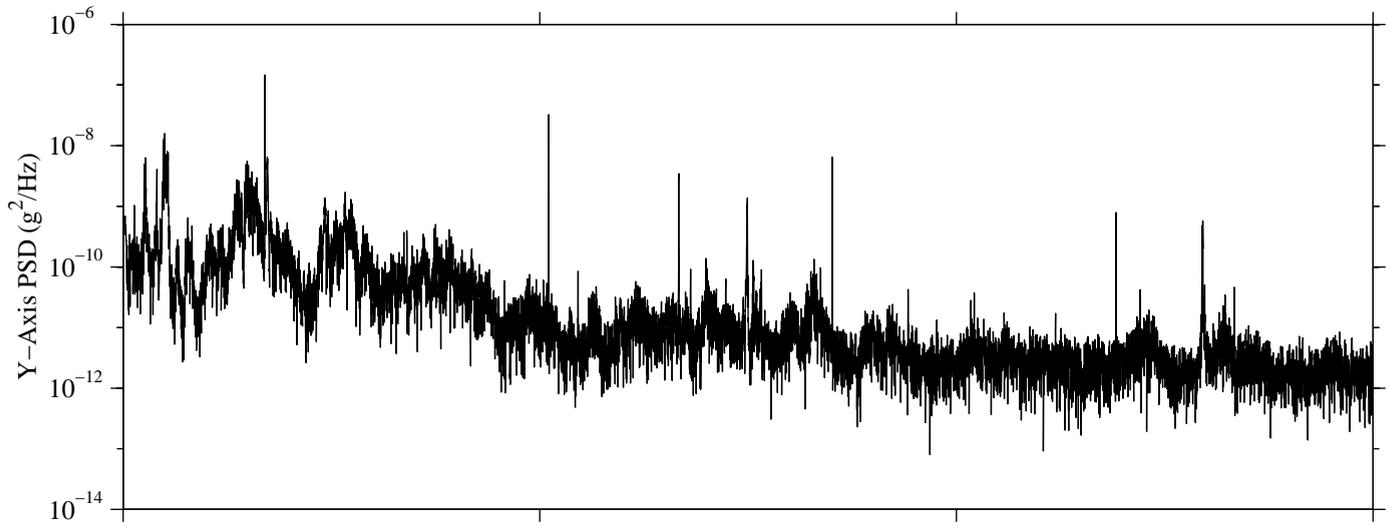
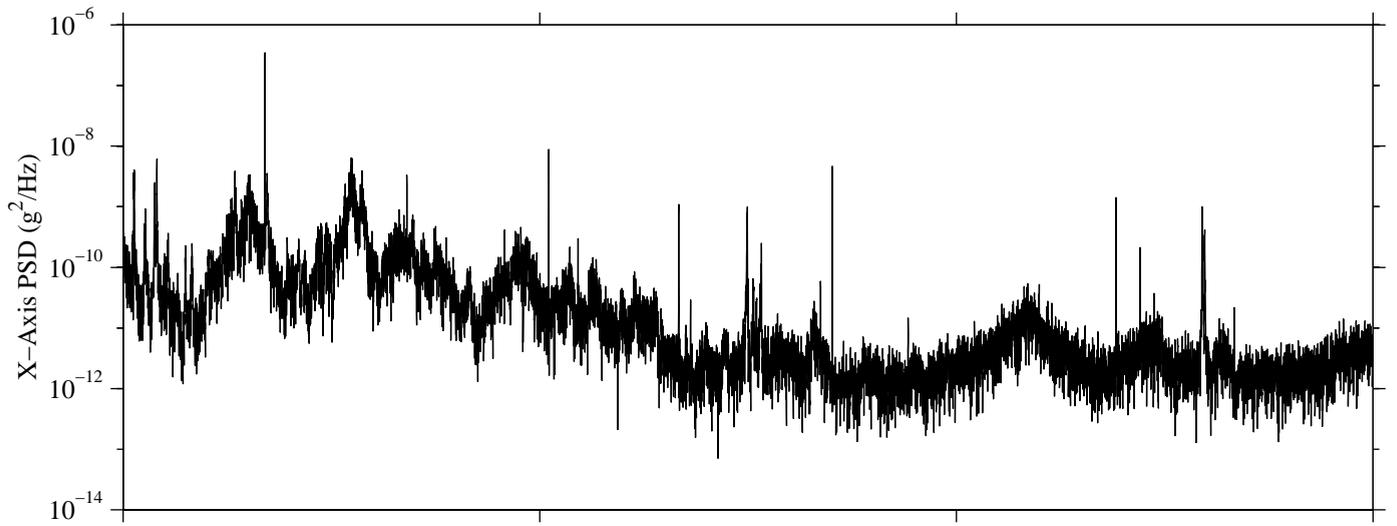
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #16  
MET Start at 002/04:28:48.219 (Hanning Window, k=3)

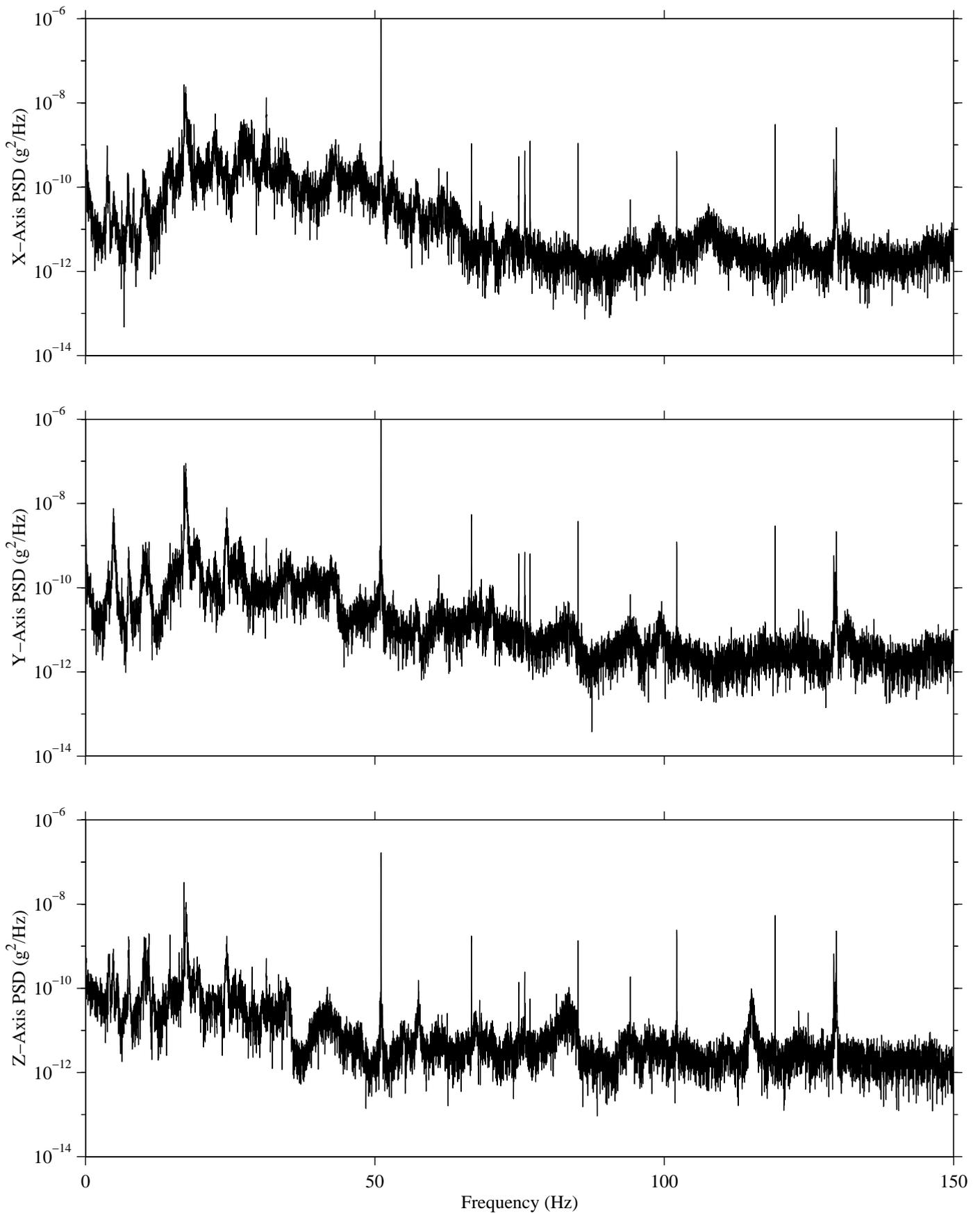
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #17  
MET Start at 002/18:22:02.815 (Hanning Window, k=3)

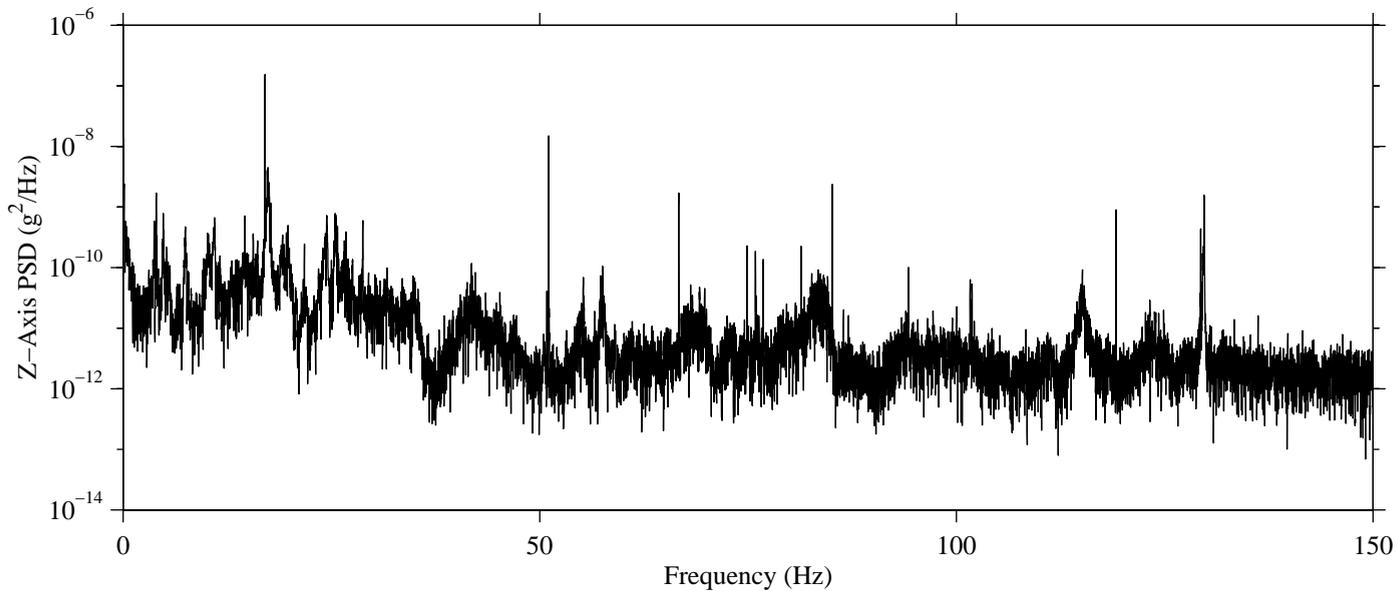
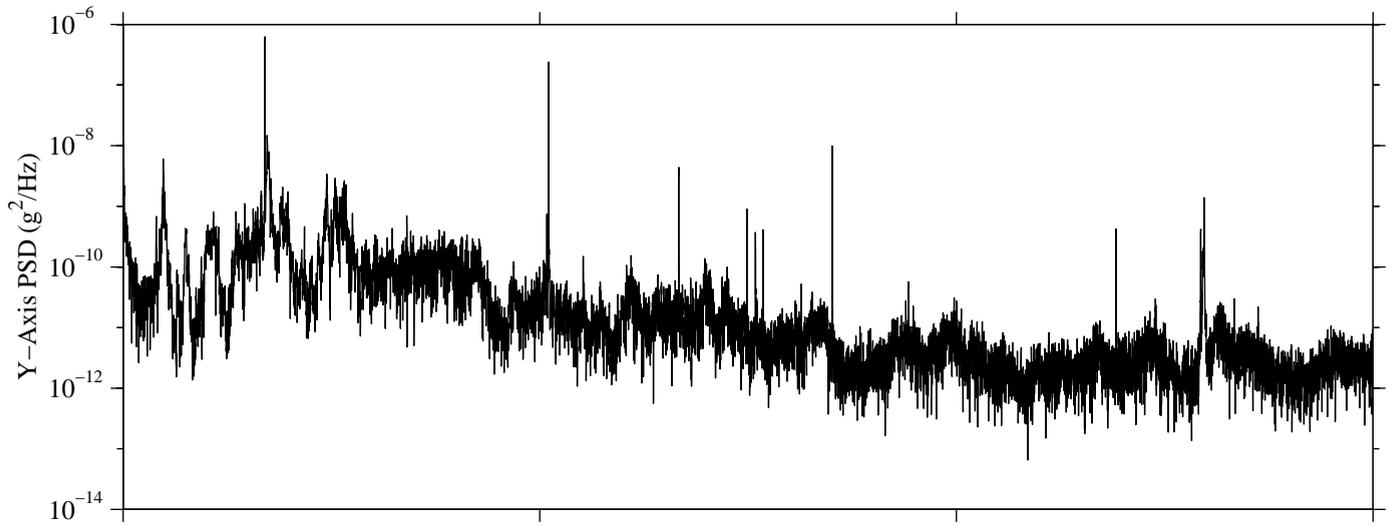
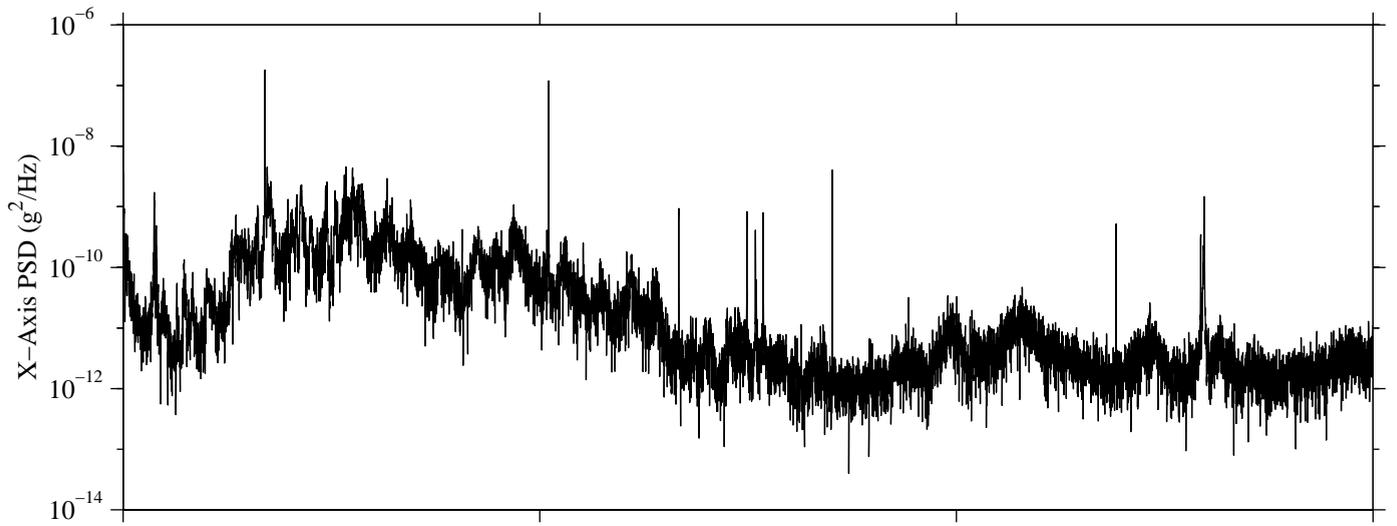
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes

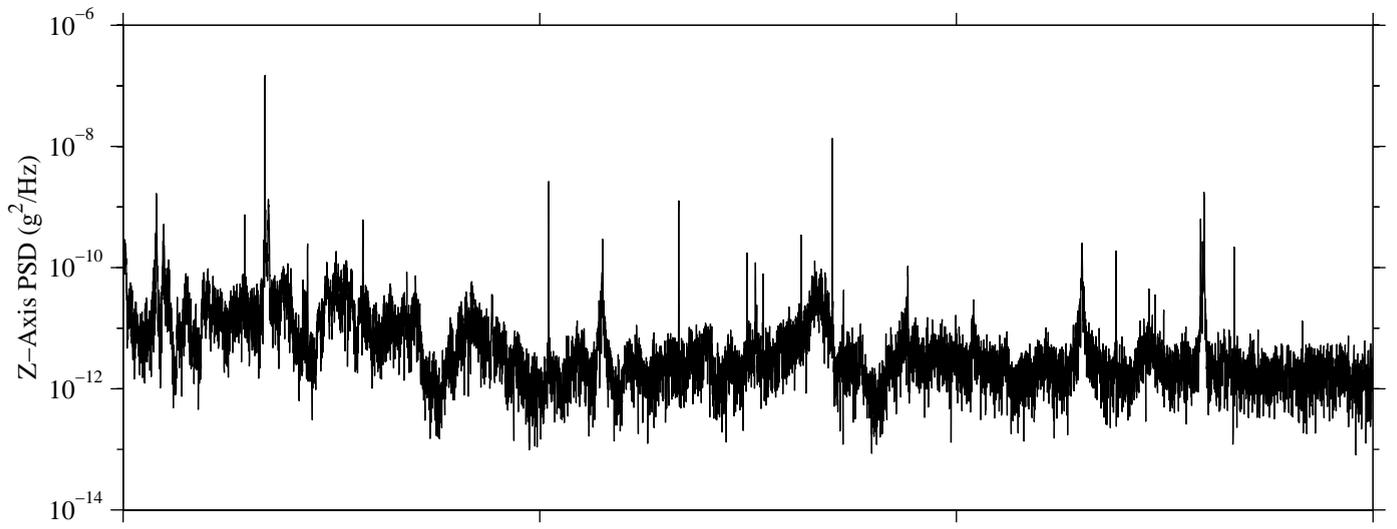
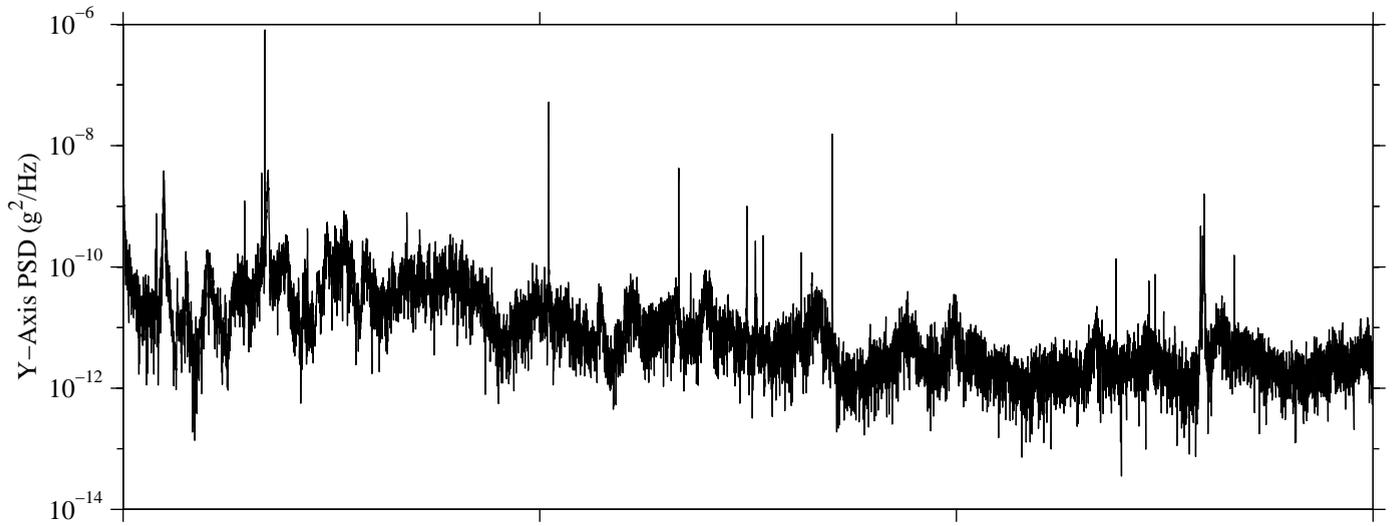
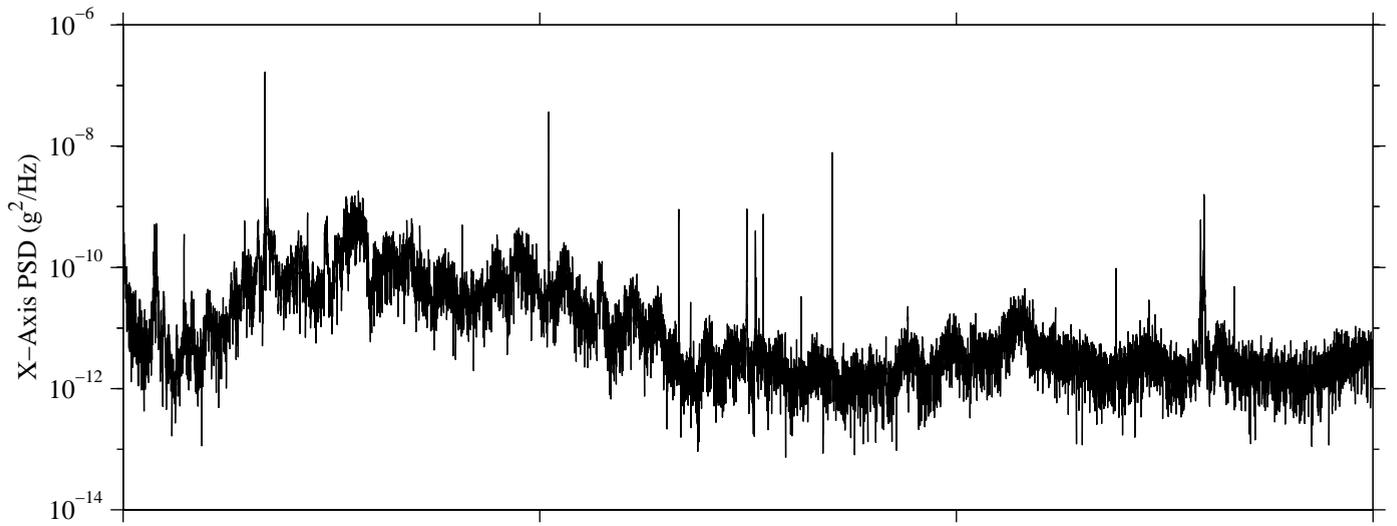


Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #18  
MET Start at 002/18:26:49.796 (Hanning Window, k=3)

STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



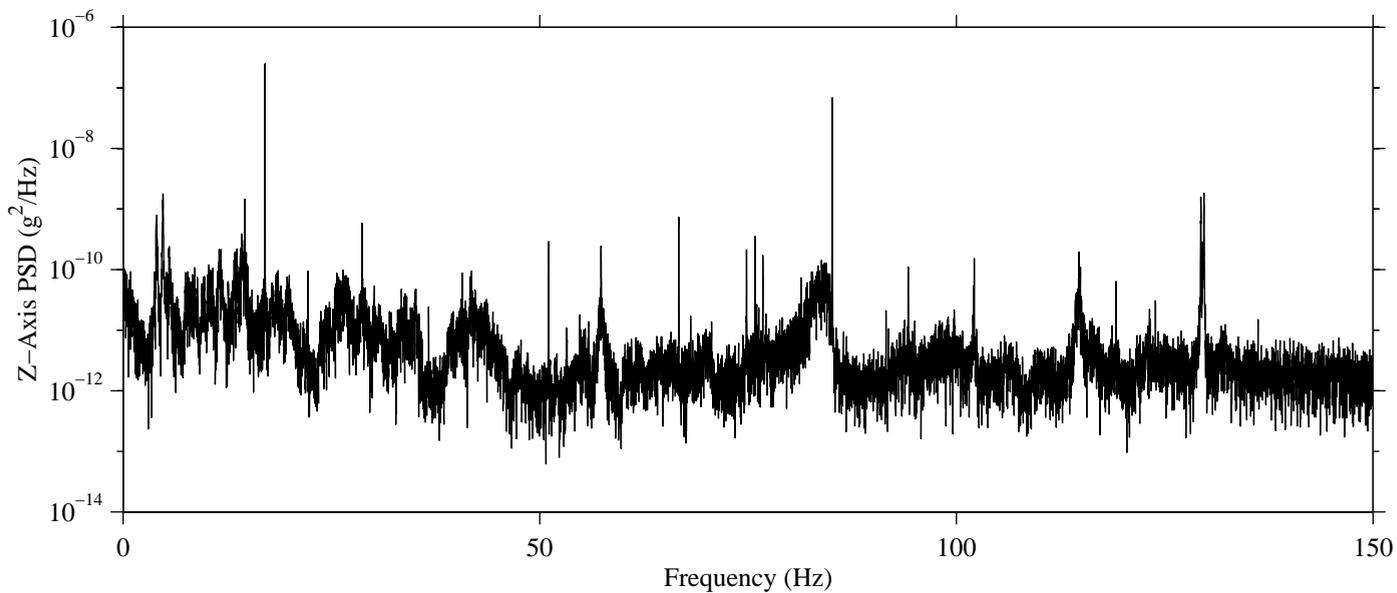
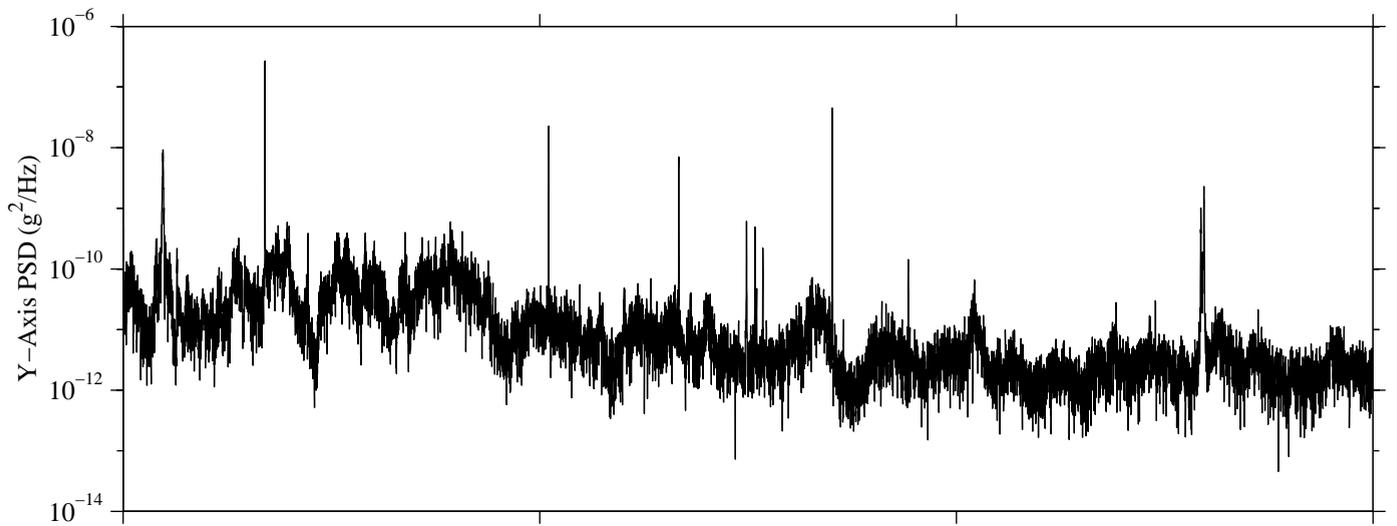
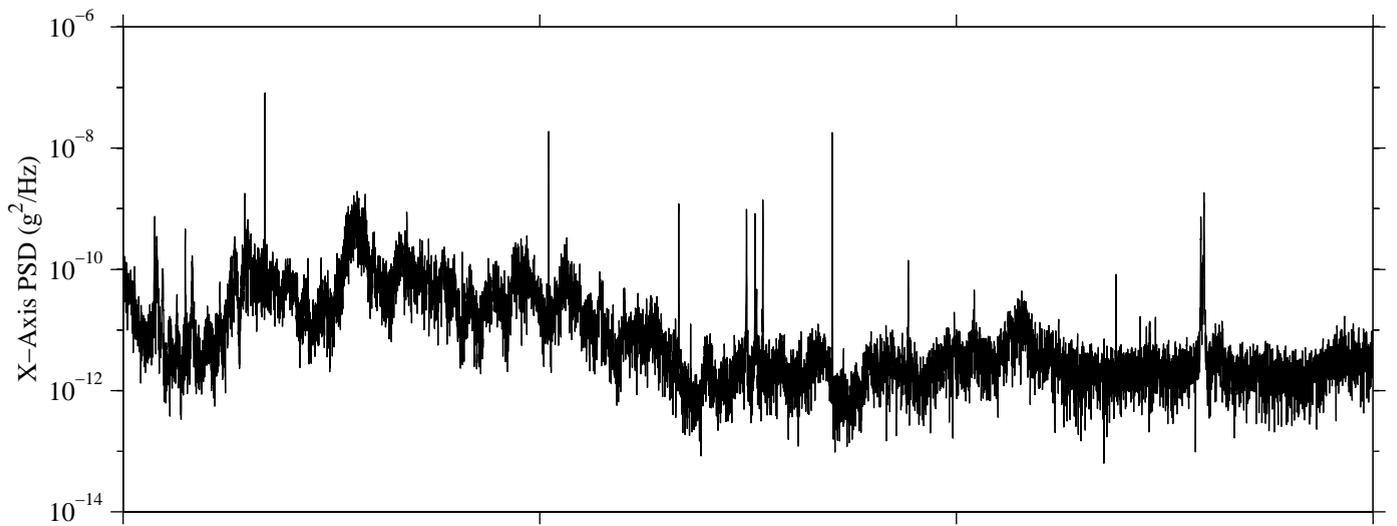


Frequency (Hz)

Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #20  
MET Start at 002/20:19:12.344 (Hanning Window, k=3)

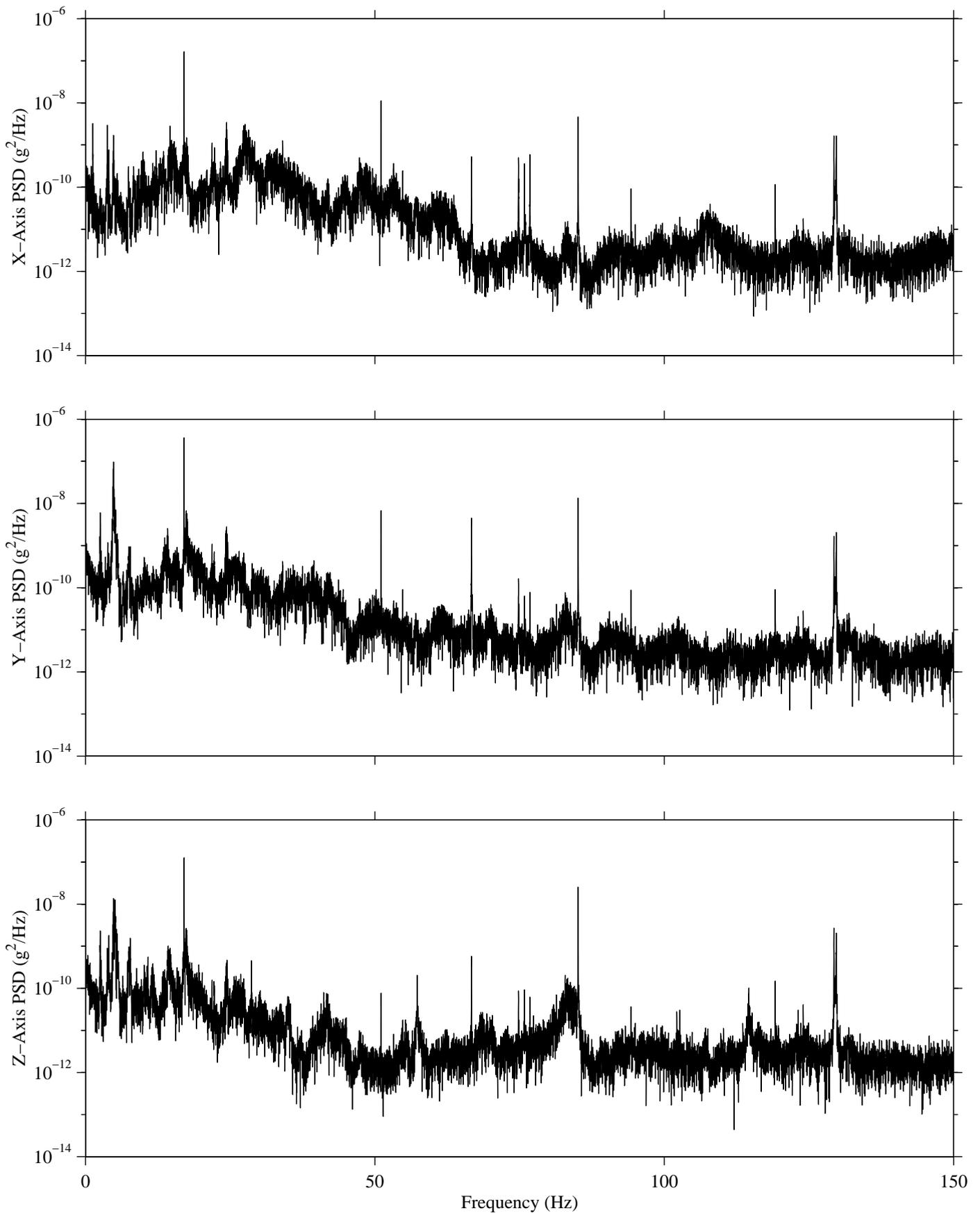
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #21  
MET Start at 002/20:24:01.326 (Hanning Window, k=3)

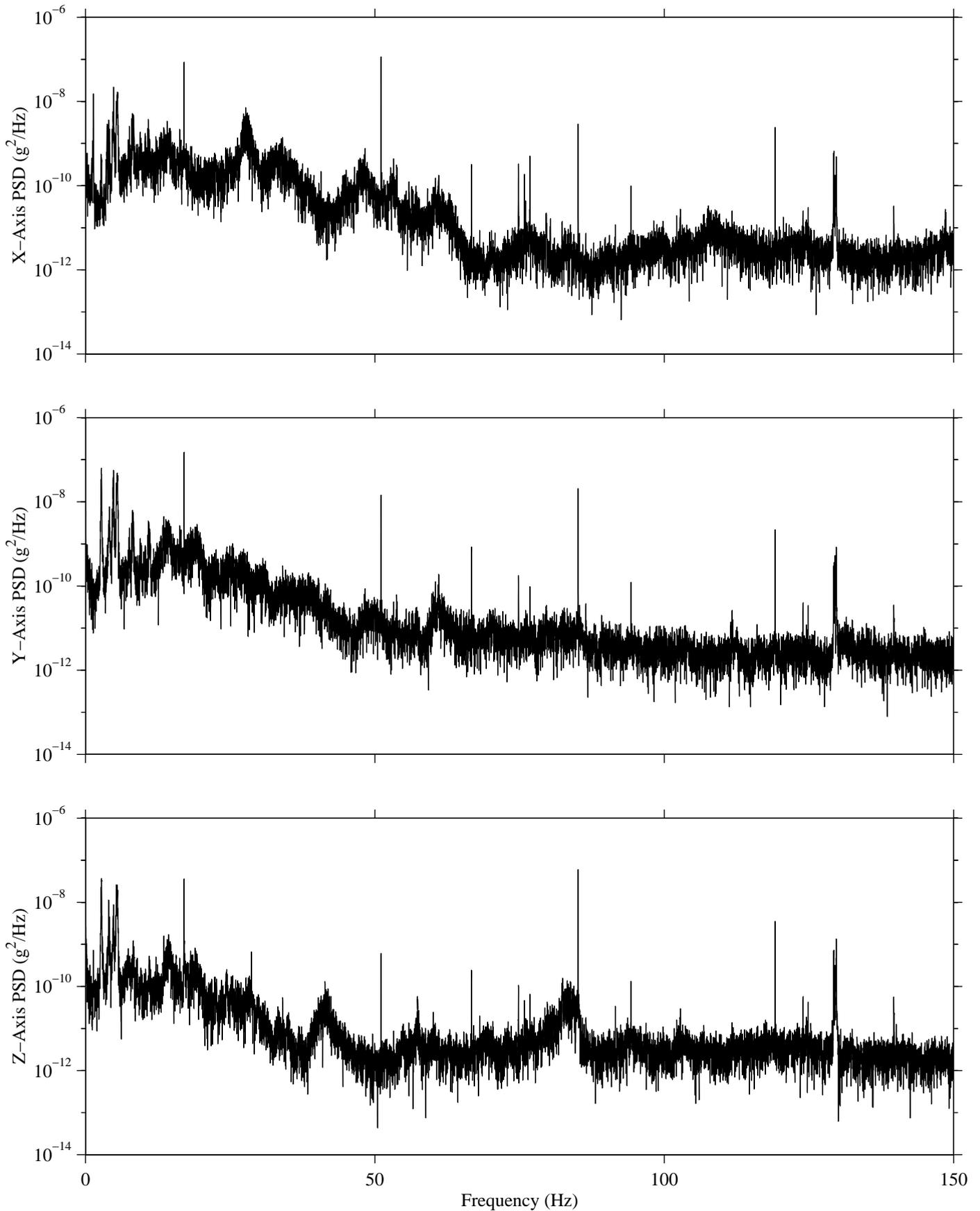
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #22  
MET Start at 002/20:28:50.306 (Hanning Window, k=3)

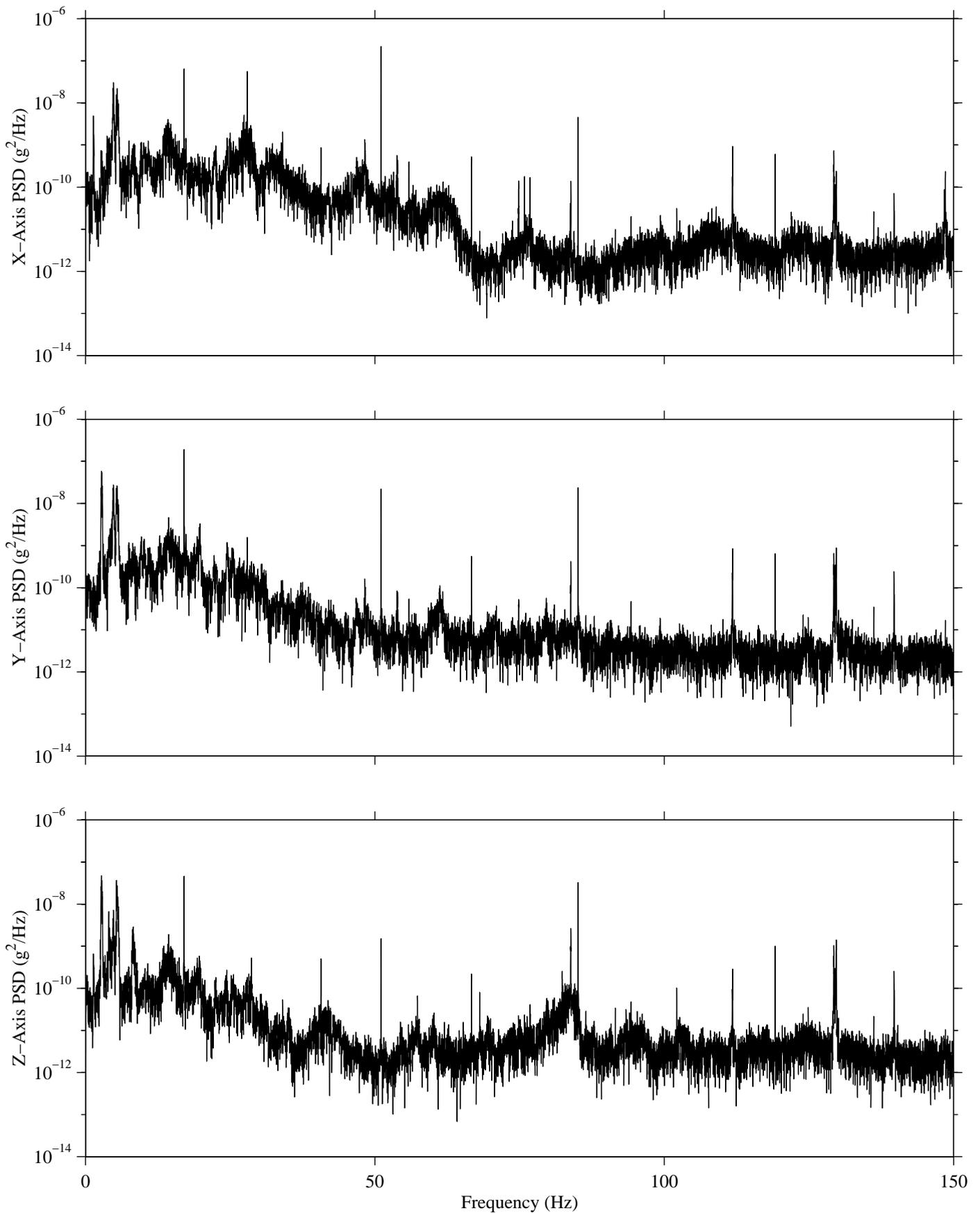
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #23  
MET Start at 002/20:33:36.285 (Hanning Window, k=3)

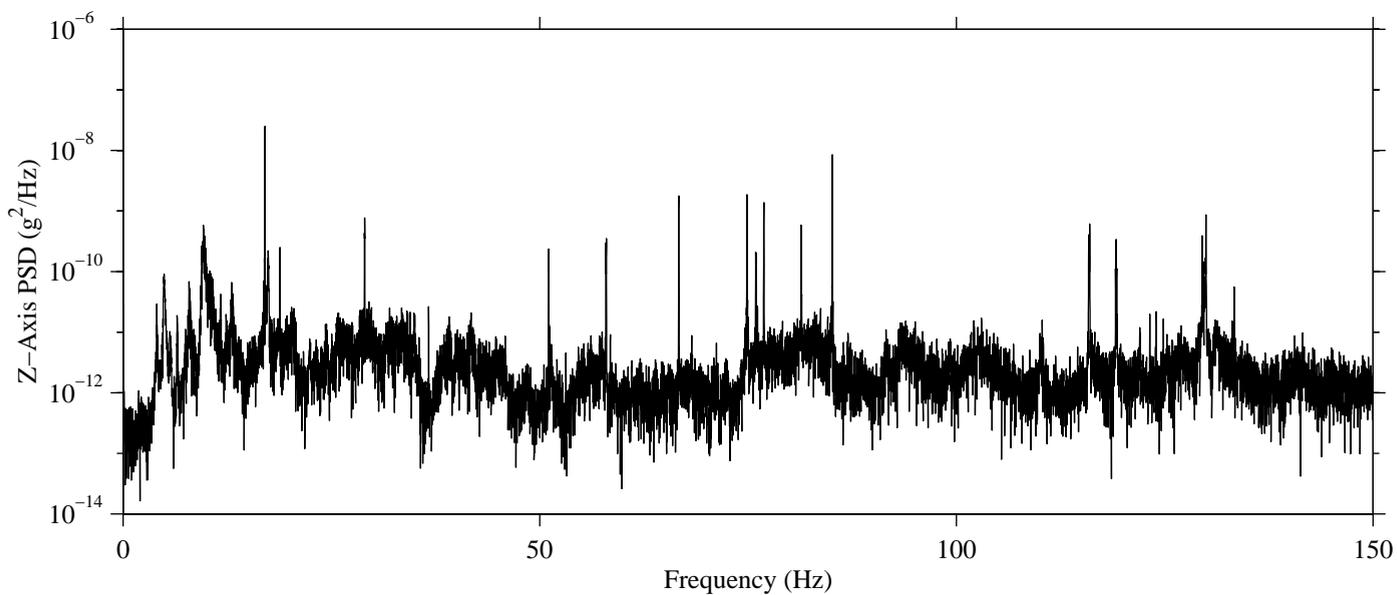
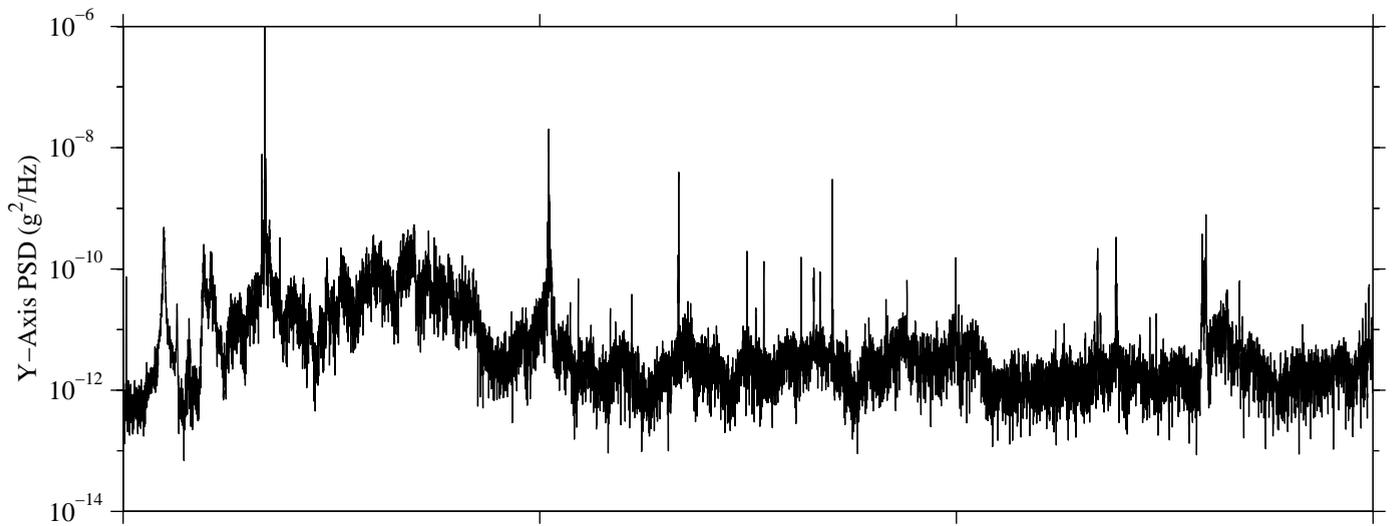
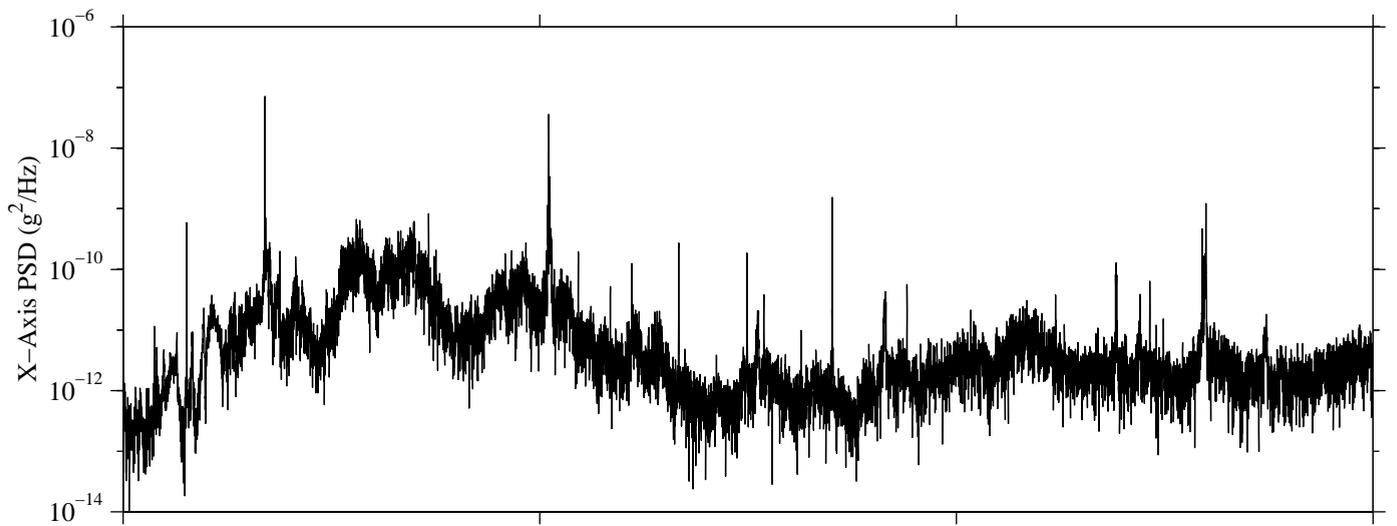
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #24  
MET Start at 003/15:17:32.962 (Hanning Window, k=3)

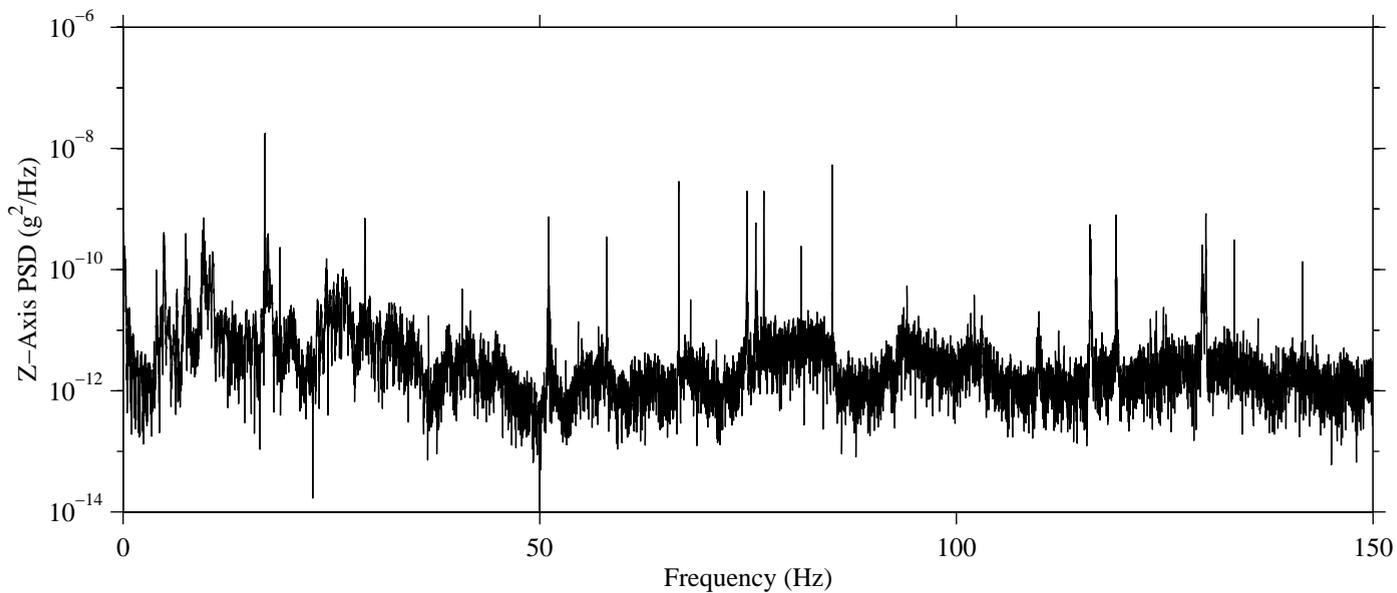
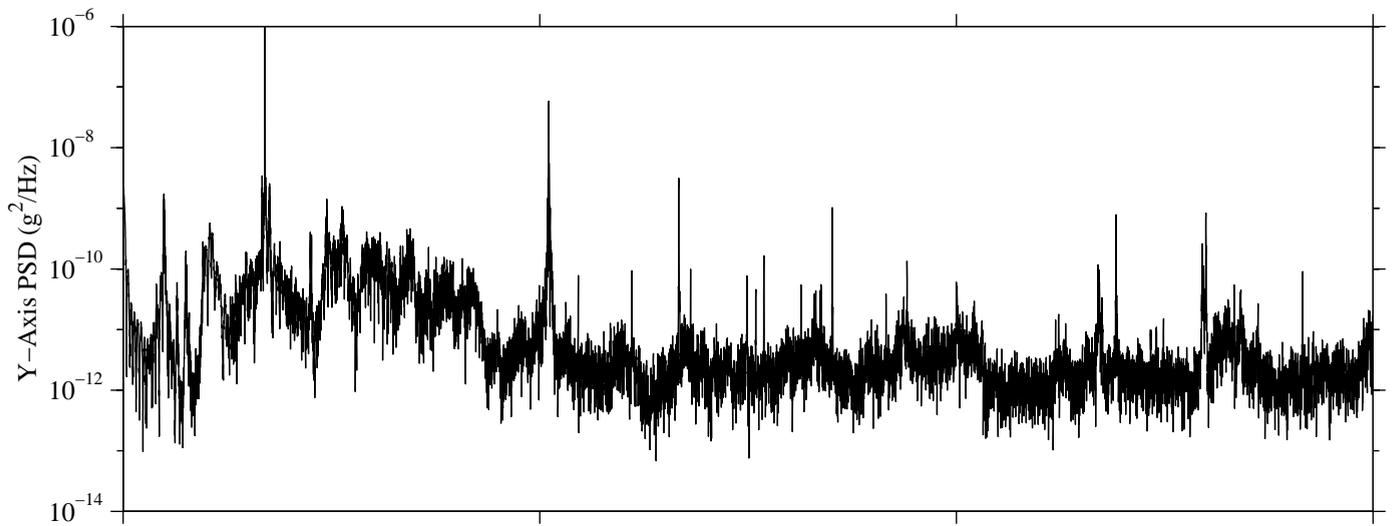
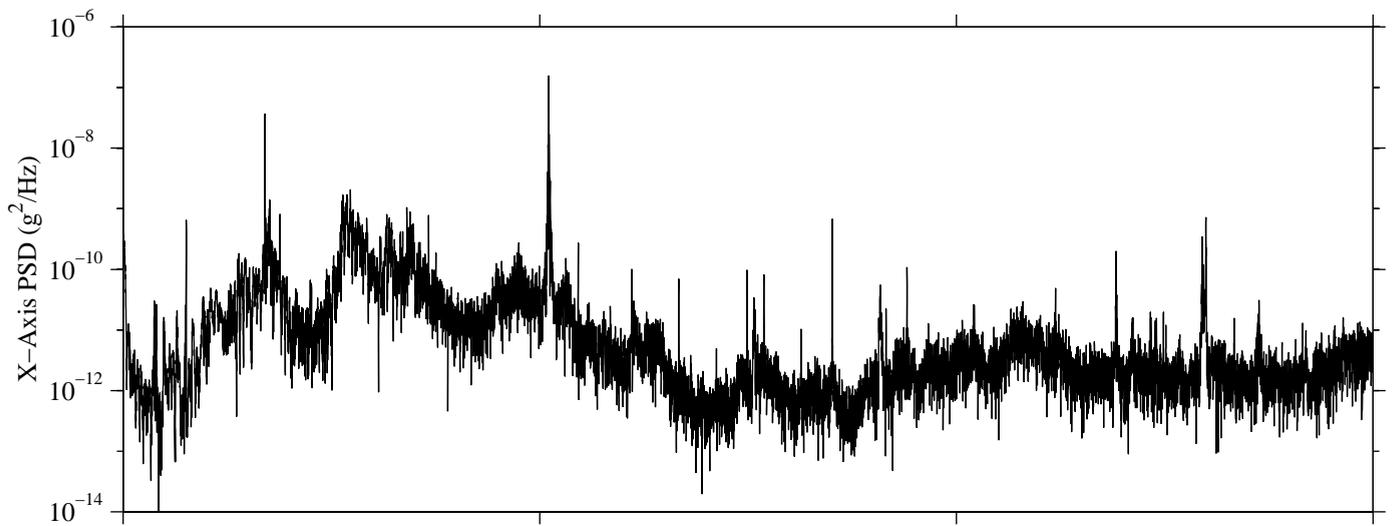
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #25  
MET Start at 003/15:23:18.935 (Hanning Window, k=3)

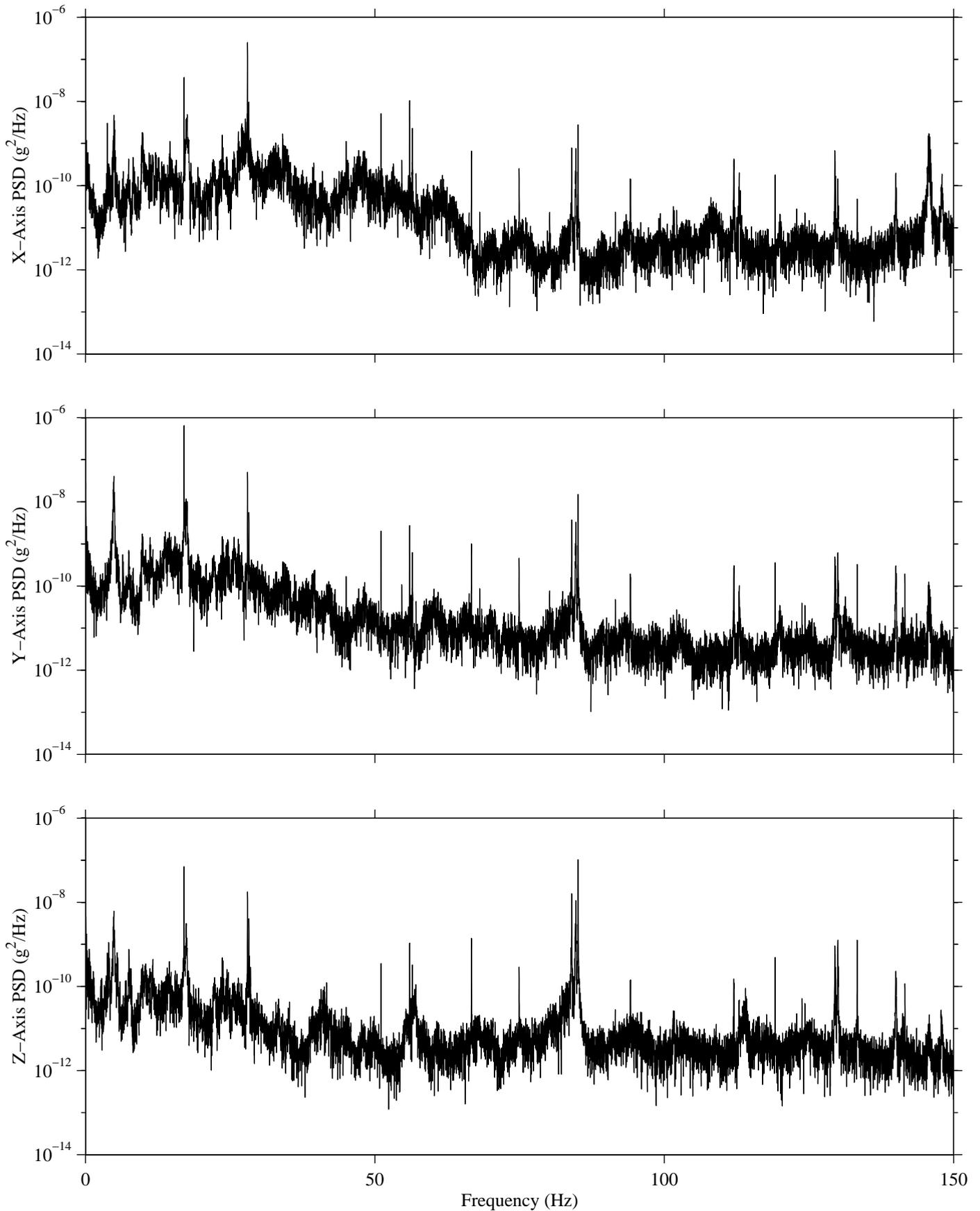
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #26  
MET Start at 003/22:06:54.282 (Hanning Window, k=3)

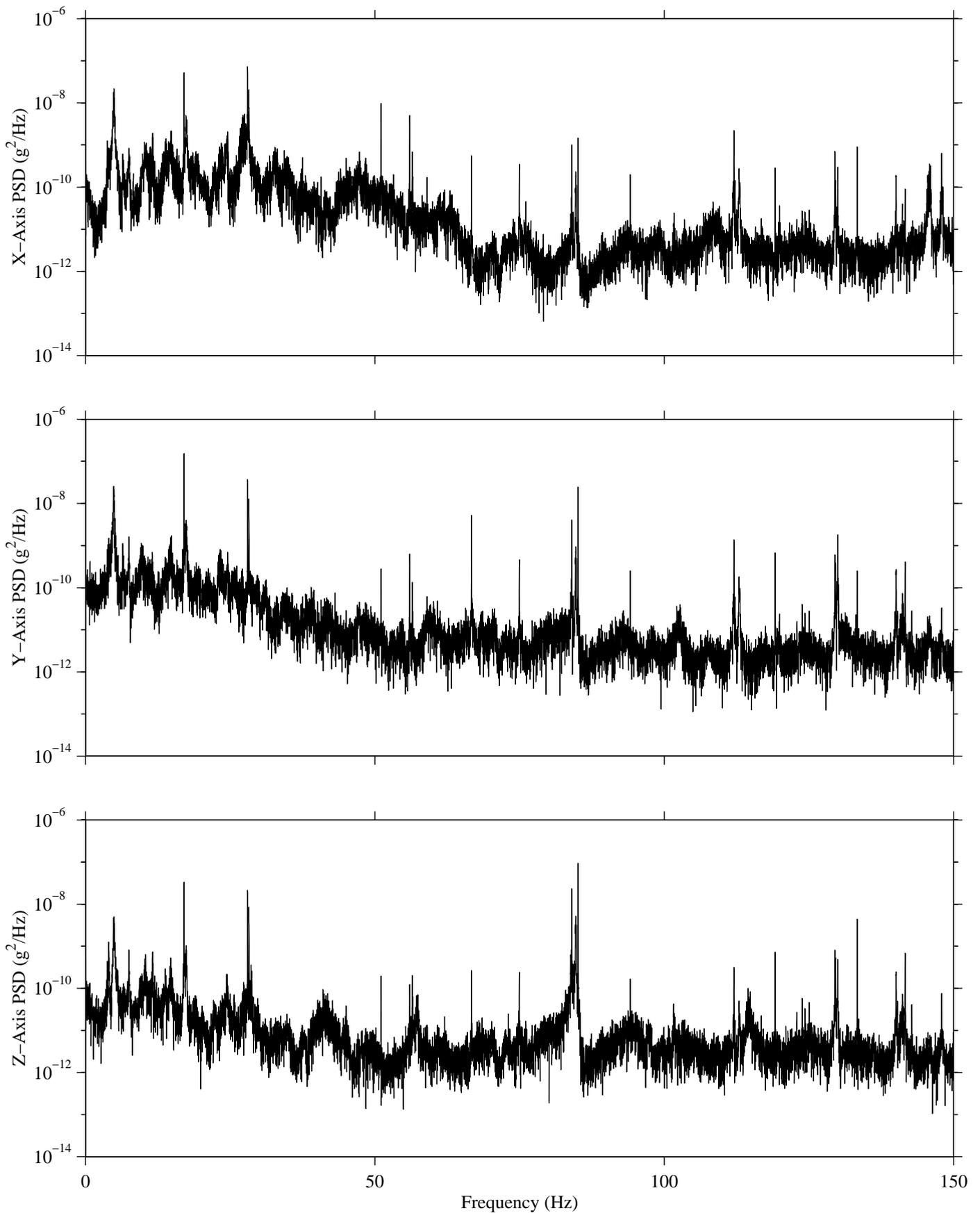
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #27  
MET Start at 003/22:11:40.262 (Hanning Window, k=3)

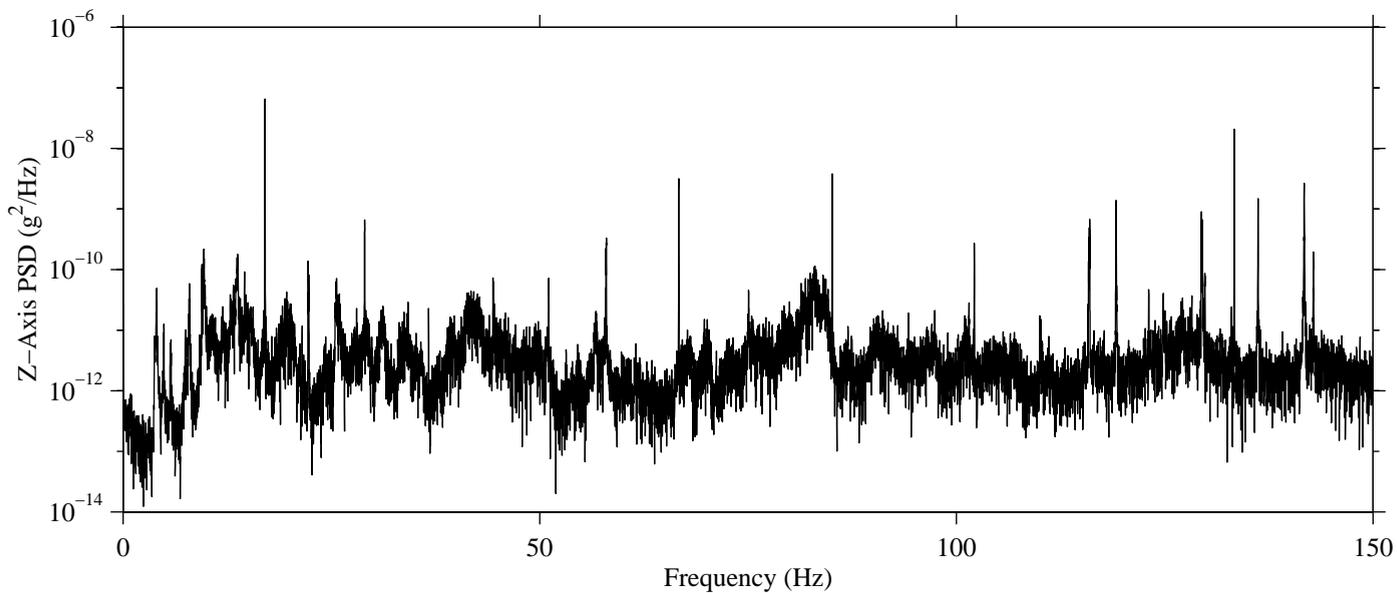
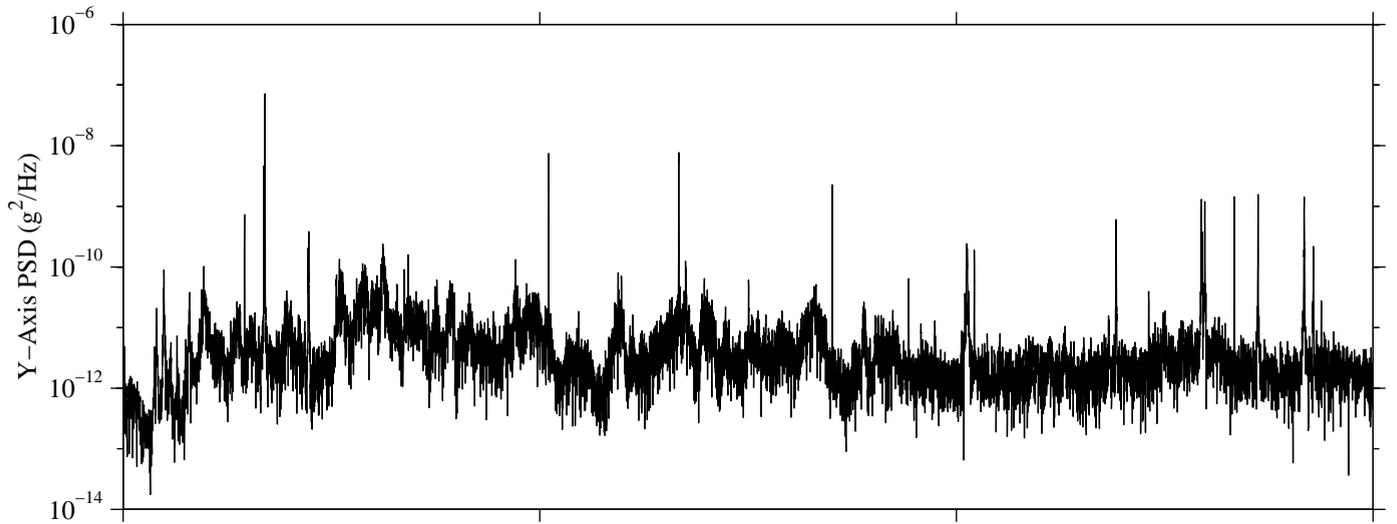
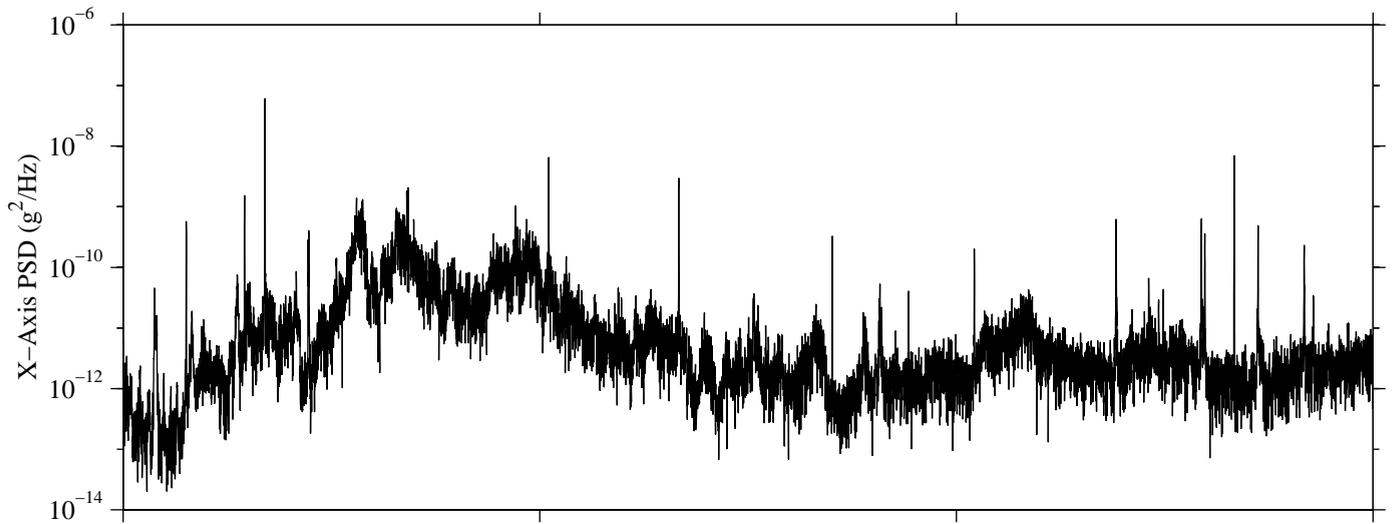
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #28  
MET Start at 004/09:06:55.970 (Hanning Window, k=3)

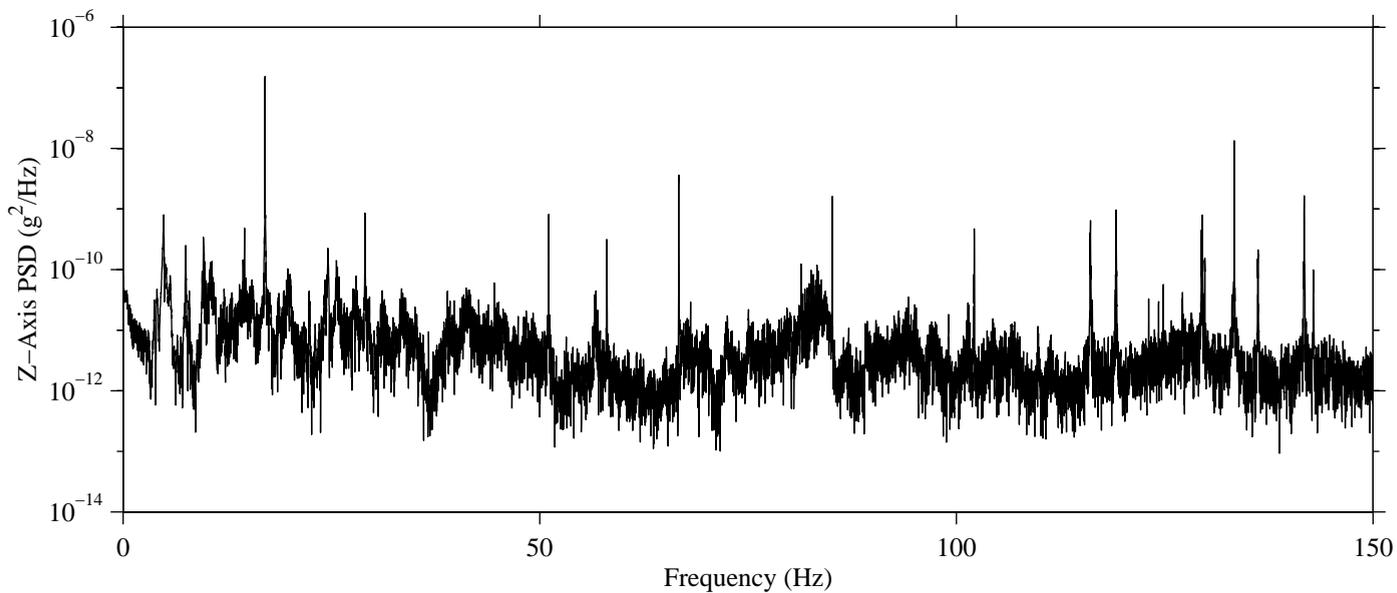
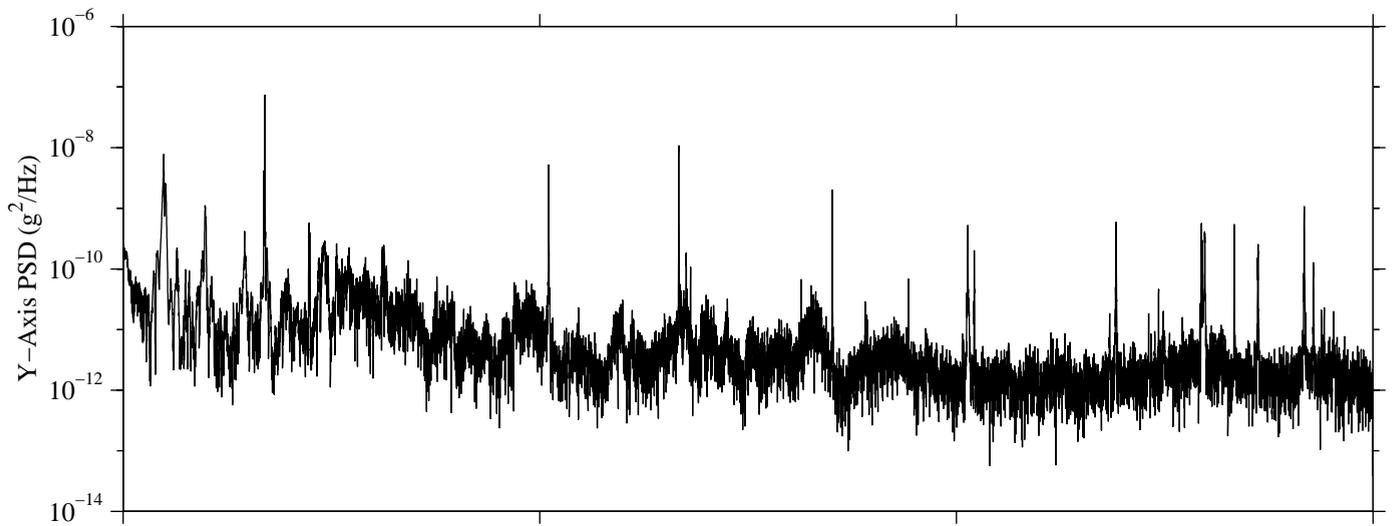
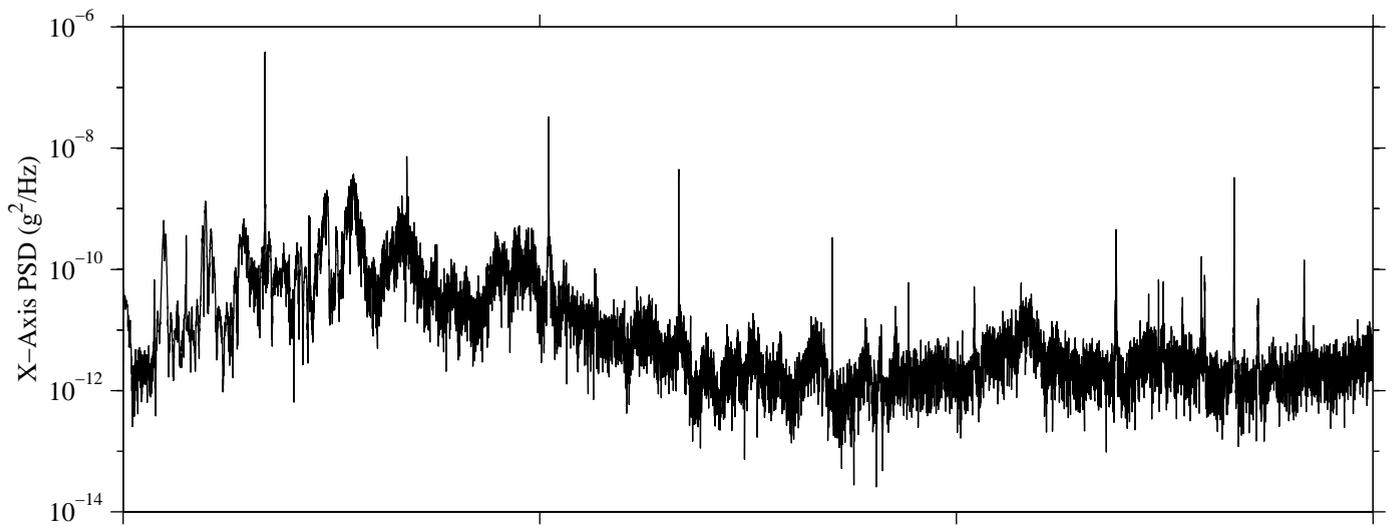
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #29  
MET Start at 004/09:11:43.951 (Hanning Window, k=3)

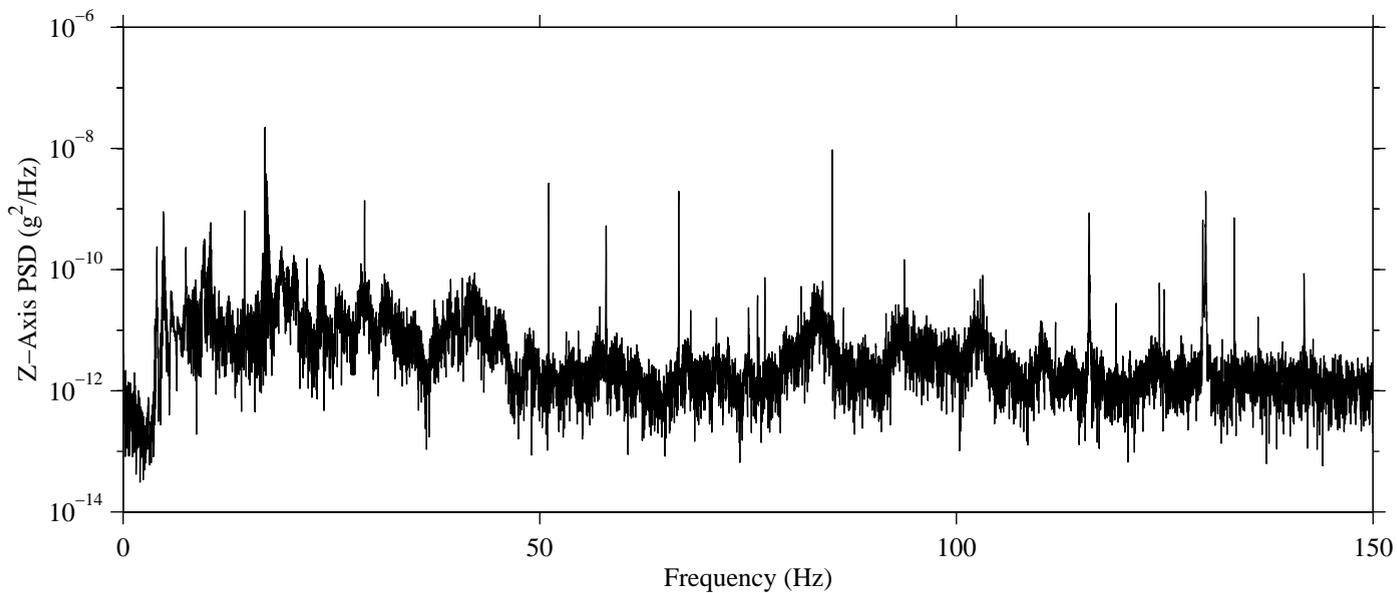
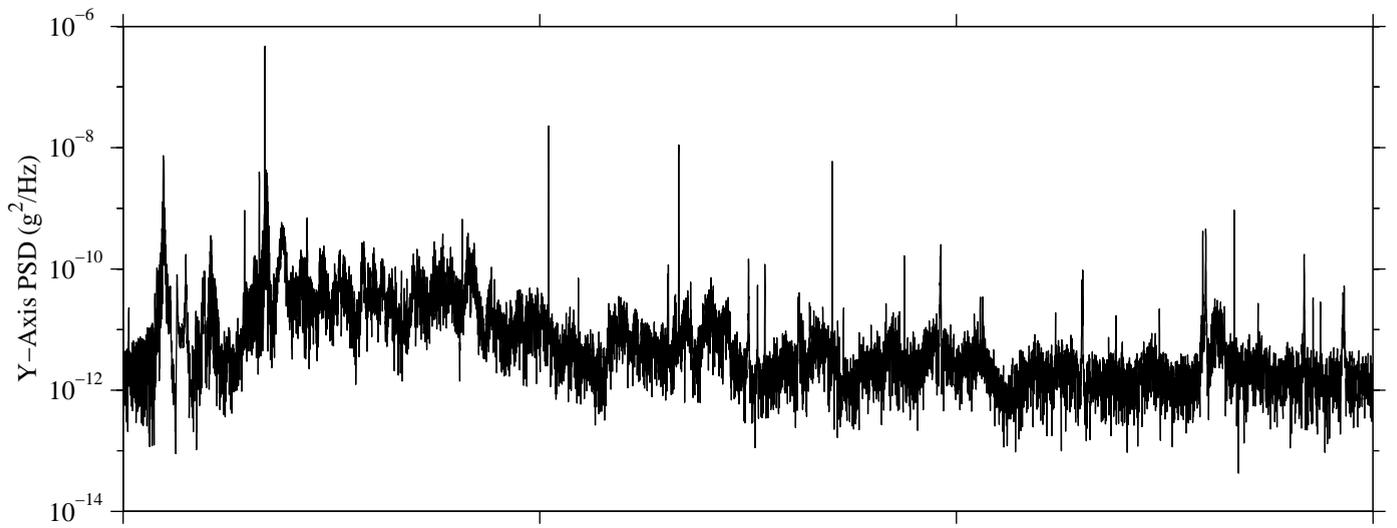
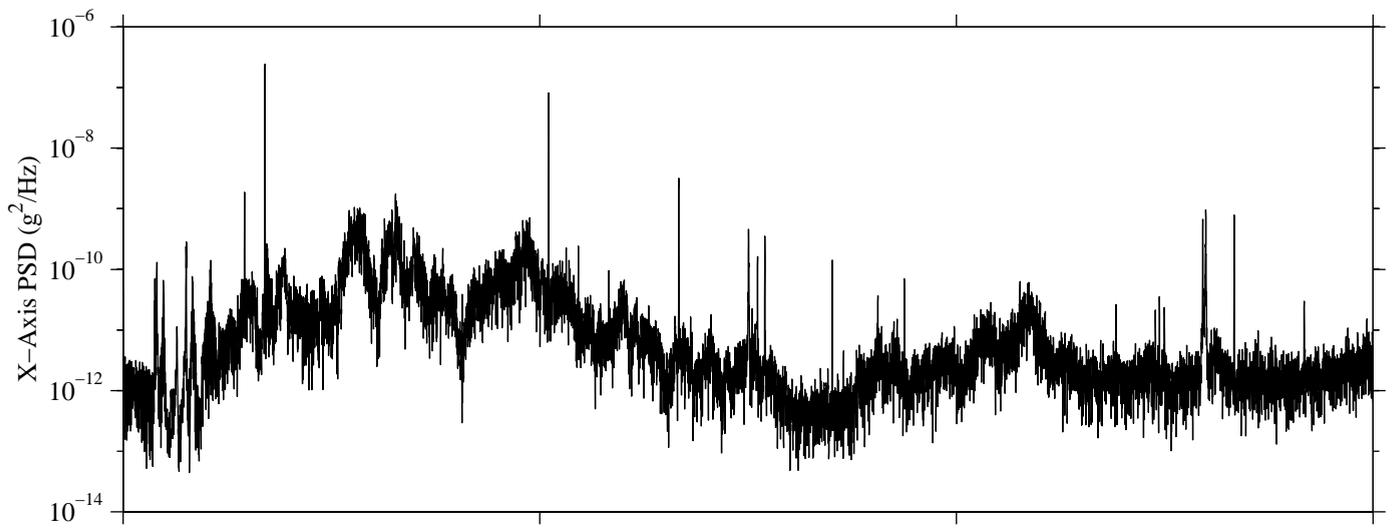
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #30  
MET Start at 005/09:04:38.073 (Hanning Window, k=3)

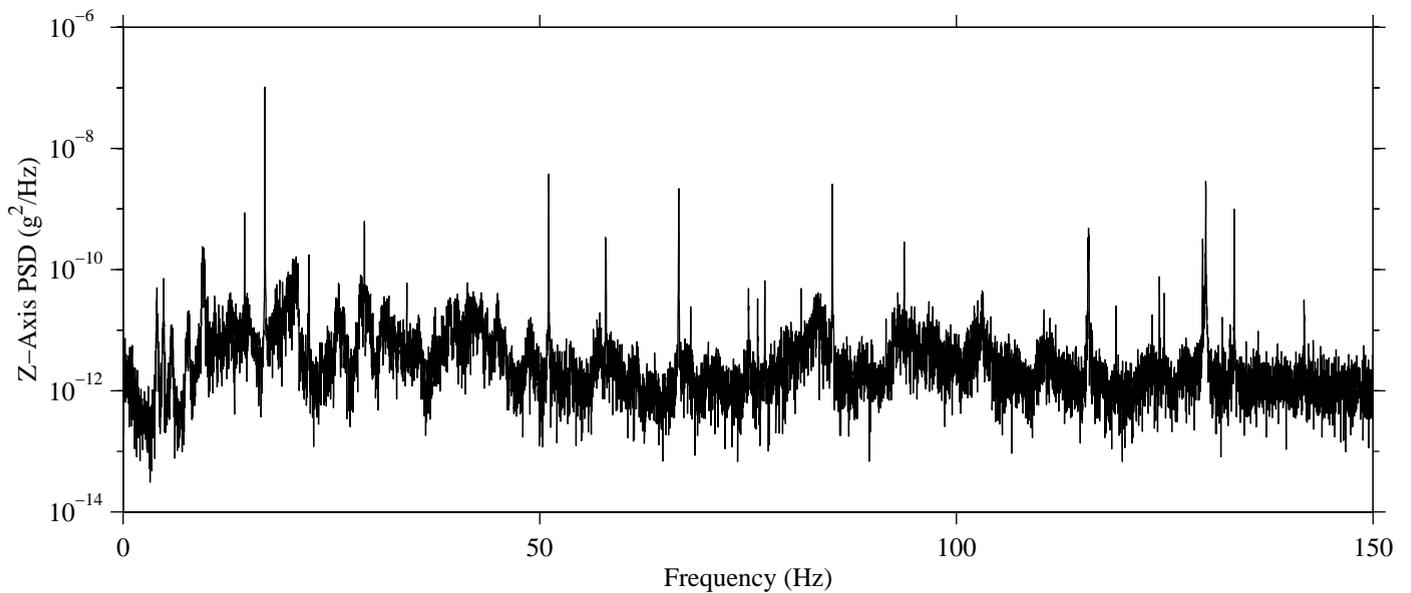
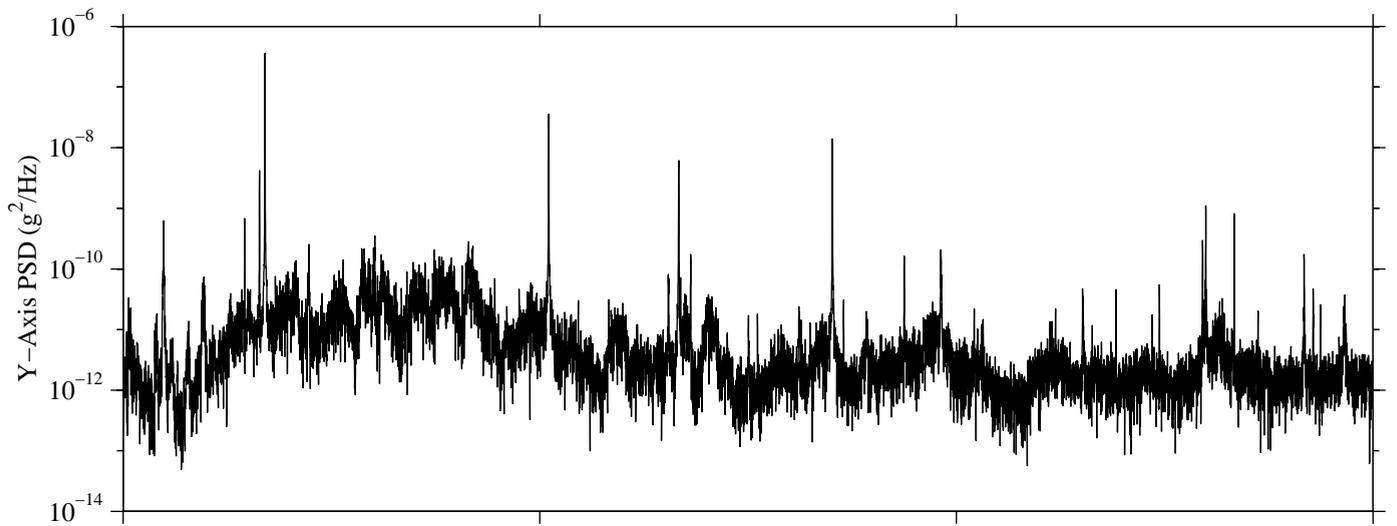
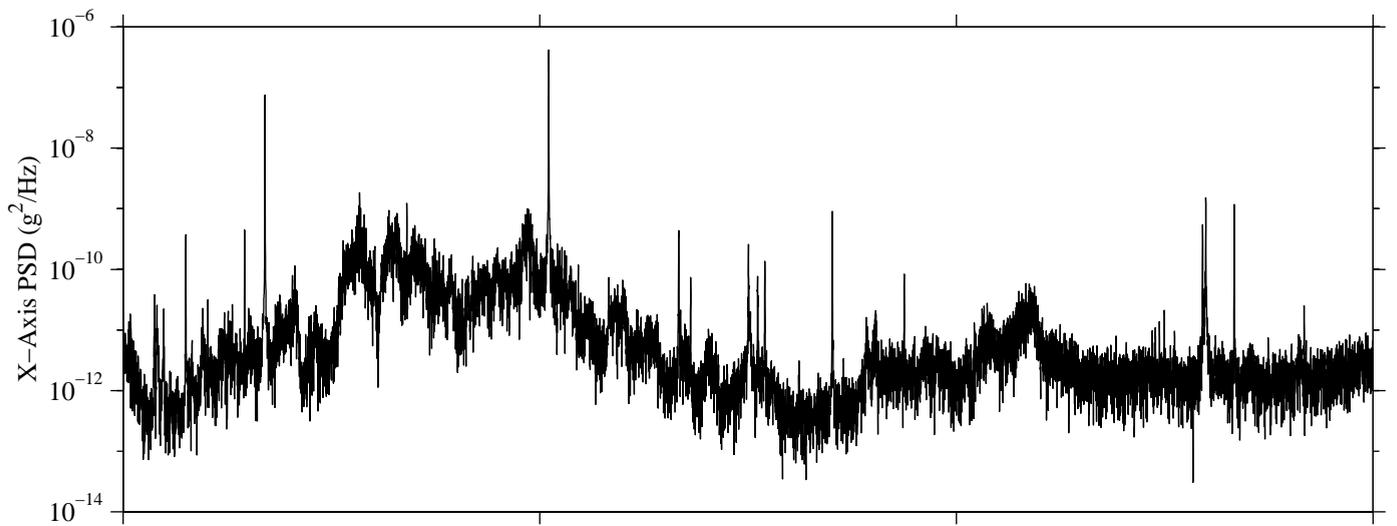
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #31  
MET Start at 005/09:09:26.053 (Hanning Window, k=3)

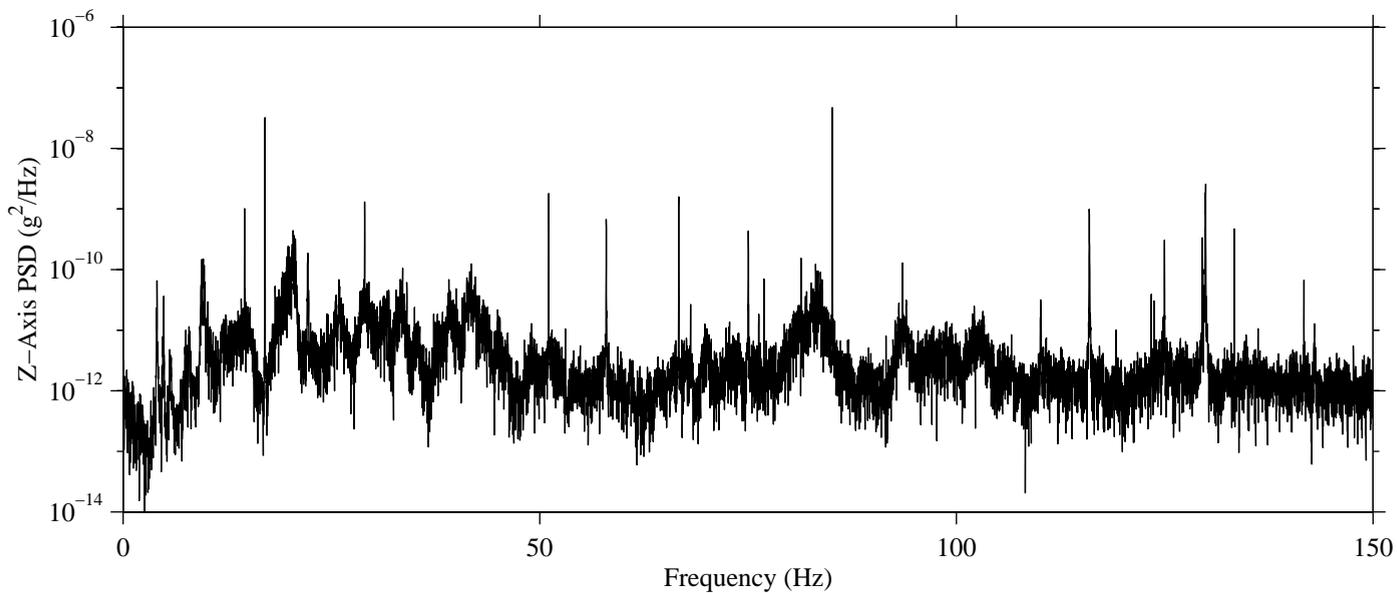
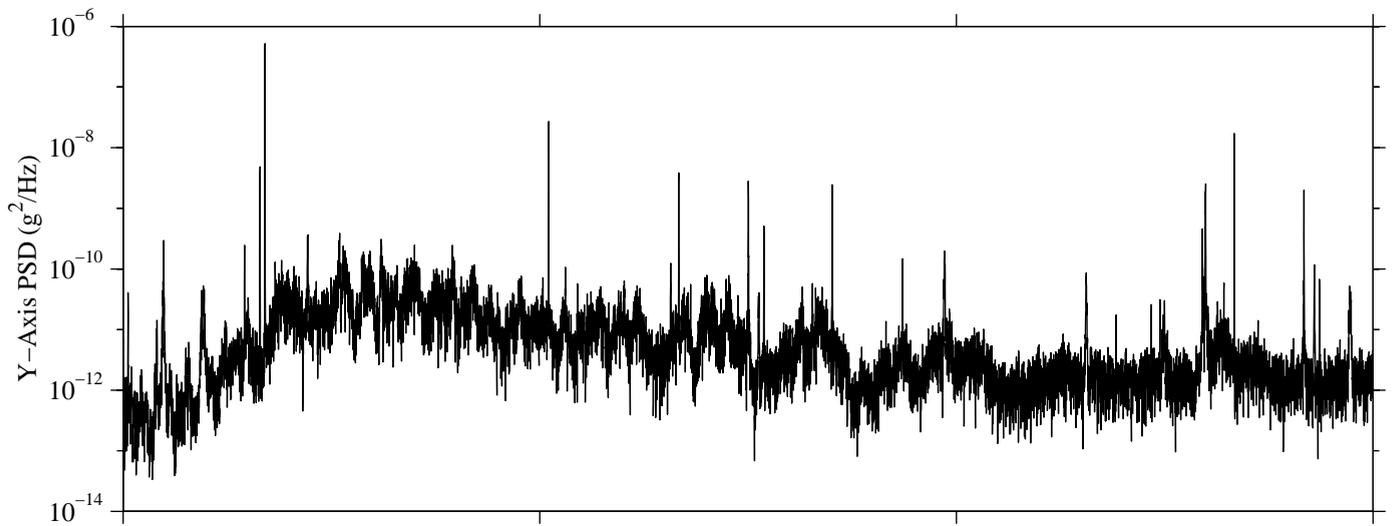
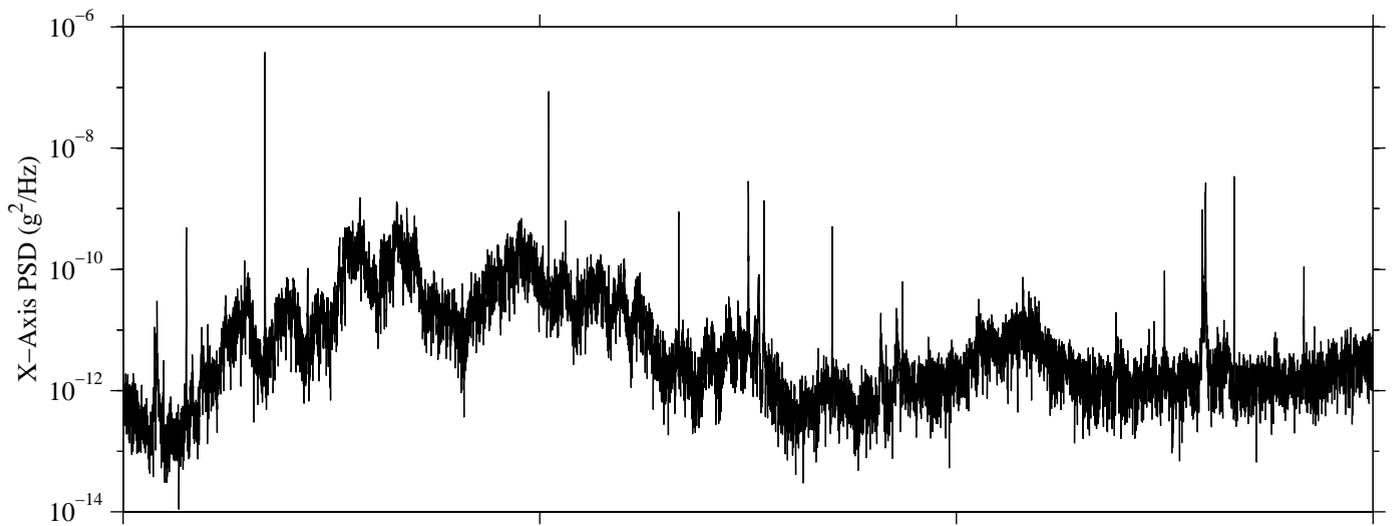
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #32  
MET Start at 005/15:00:45.949 (Hanning Window, k=3)

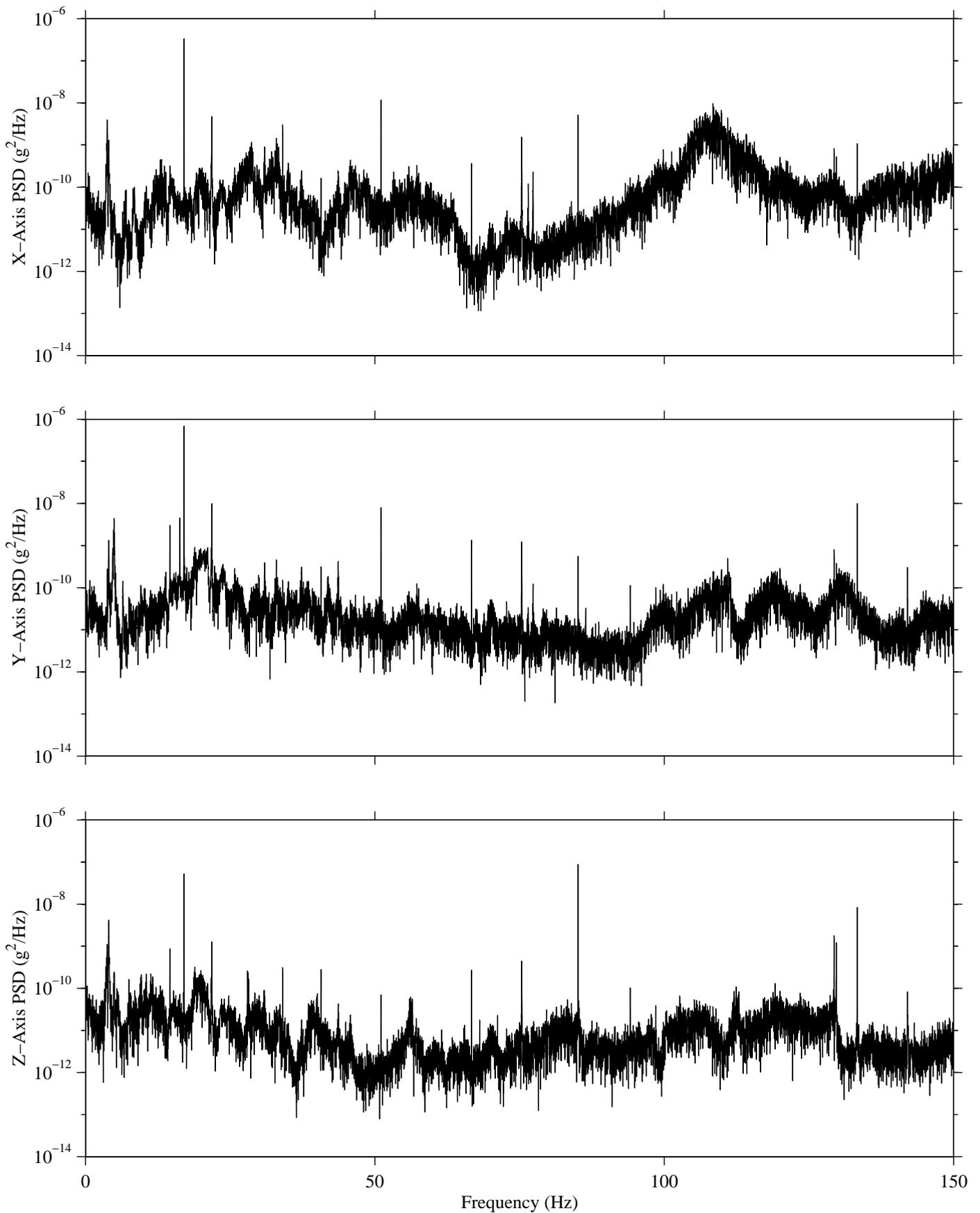
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes

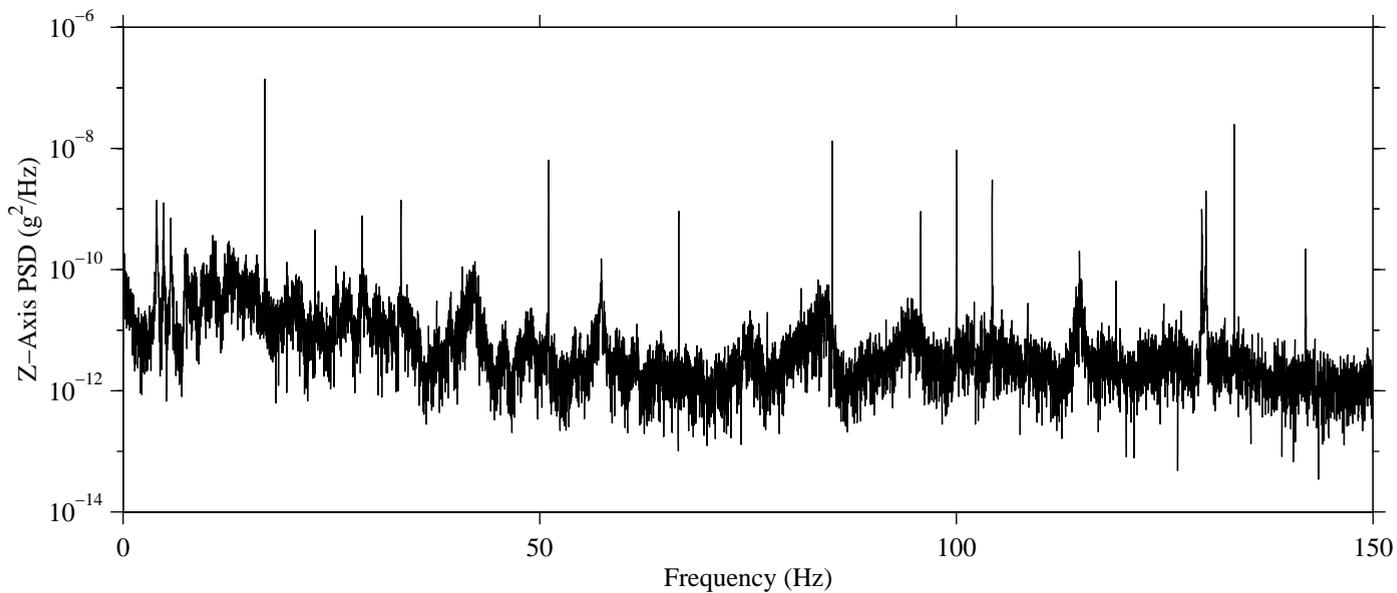
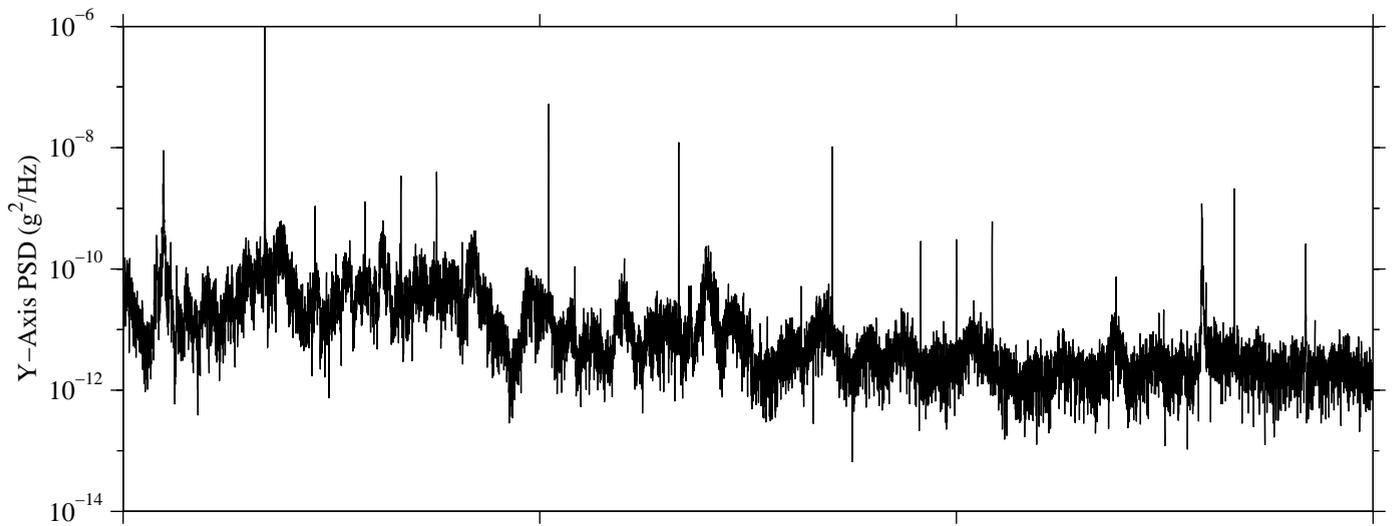
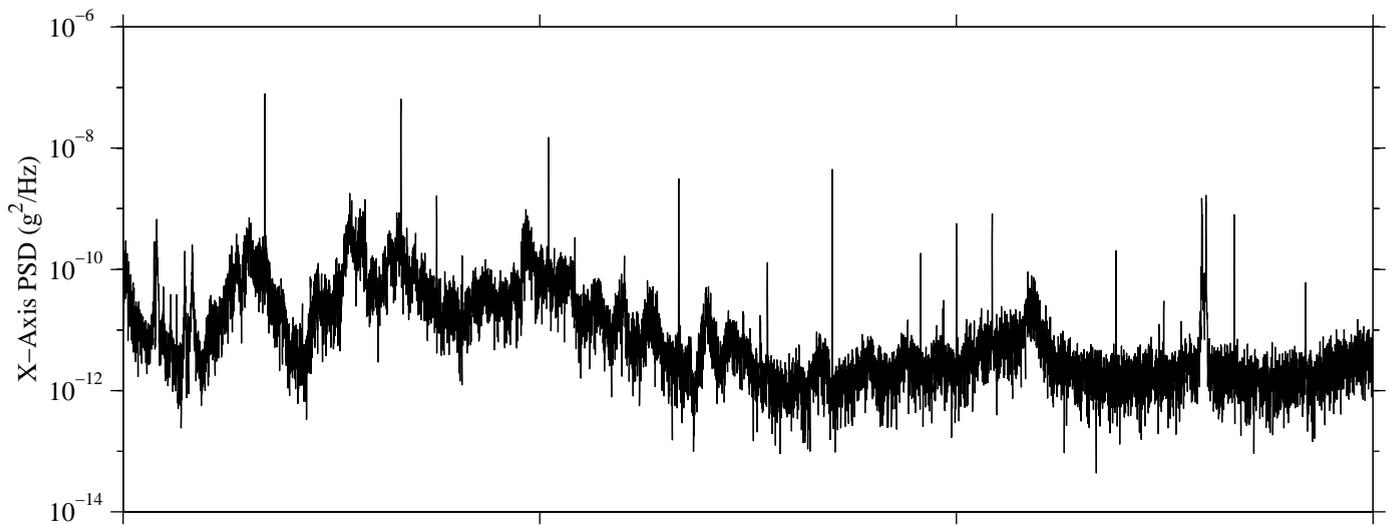


Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #33  
MET Start at 006/06:59:36.329 (Hanning Window, k=3)

STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes

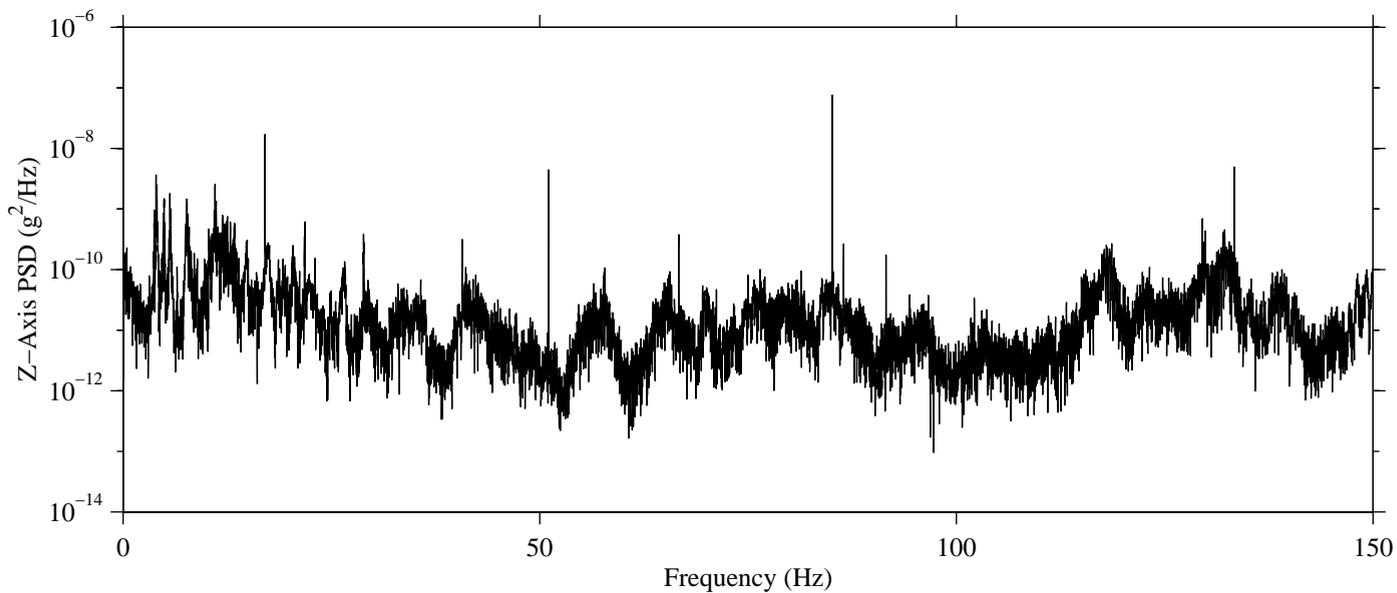
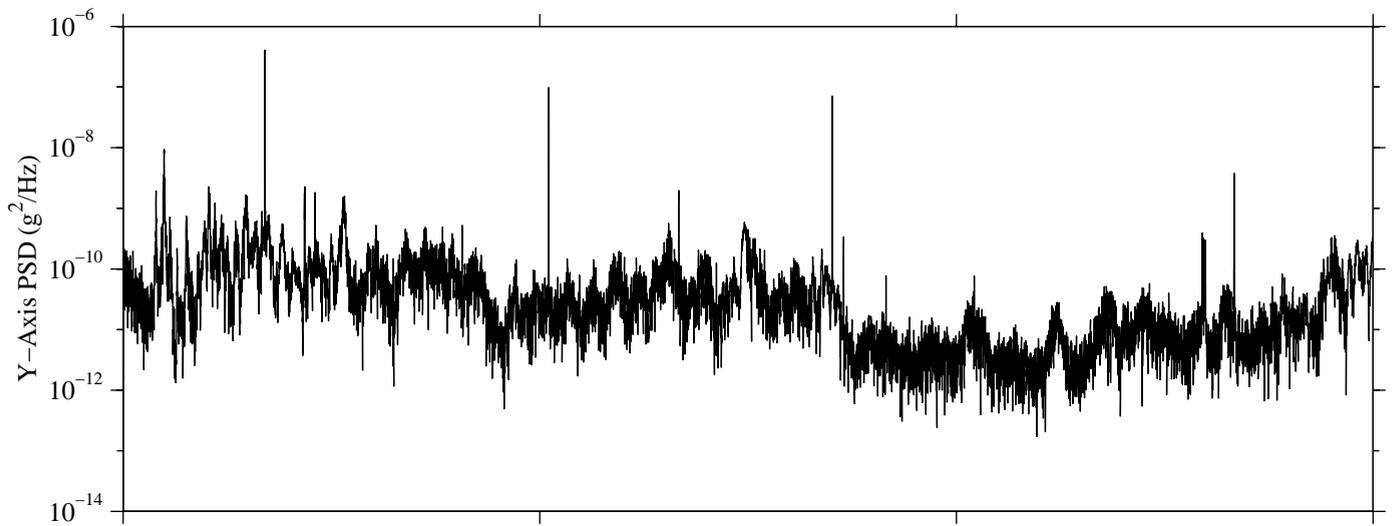
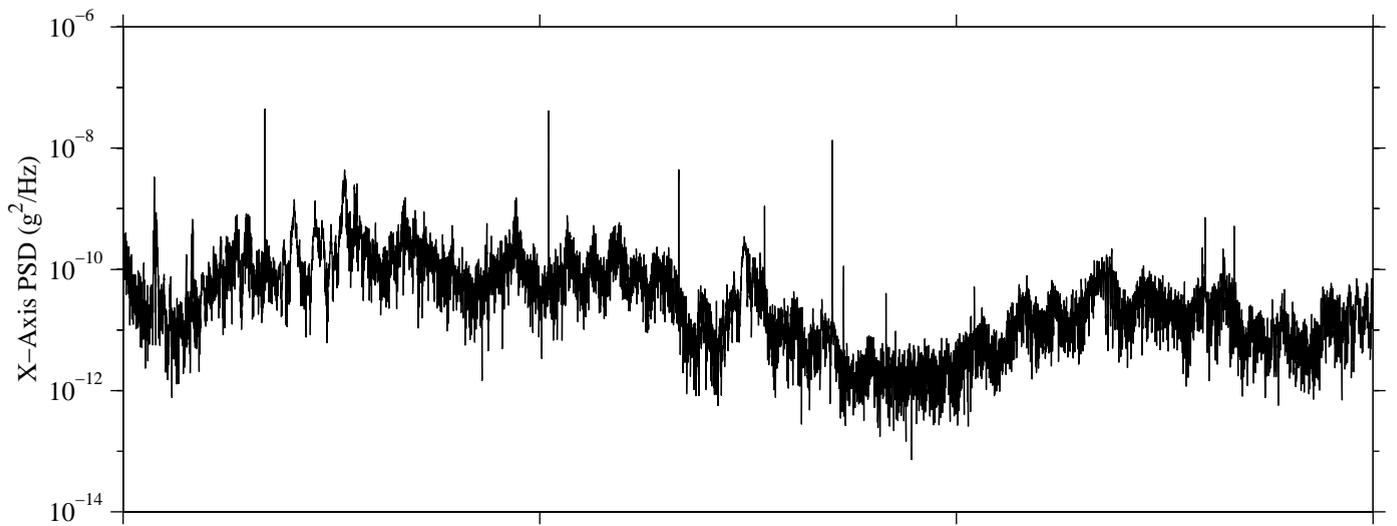




Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #35  
MET Start at 008/03:36:59.143 (Hanning Window, k=3)

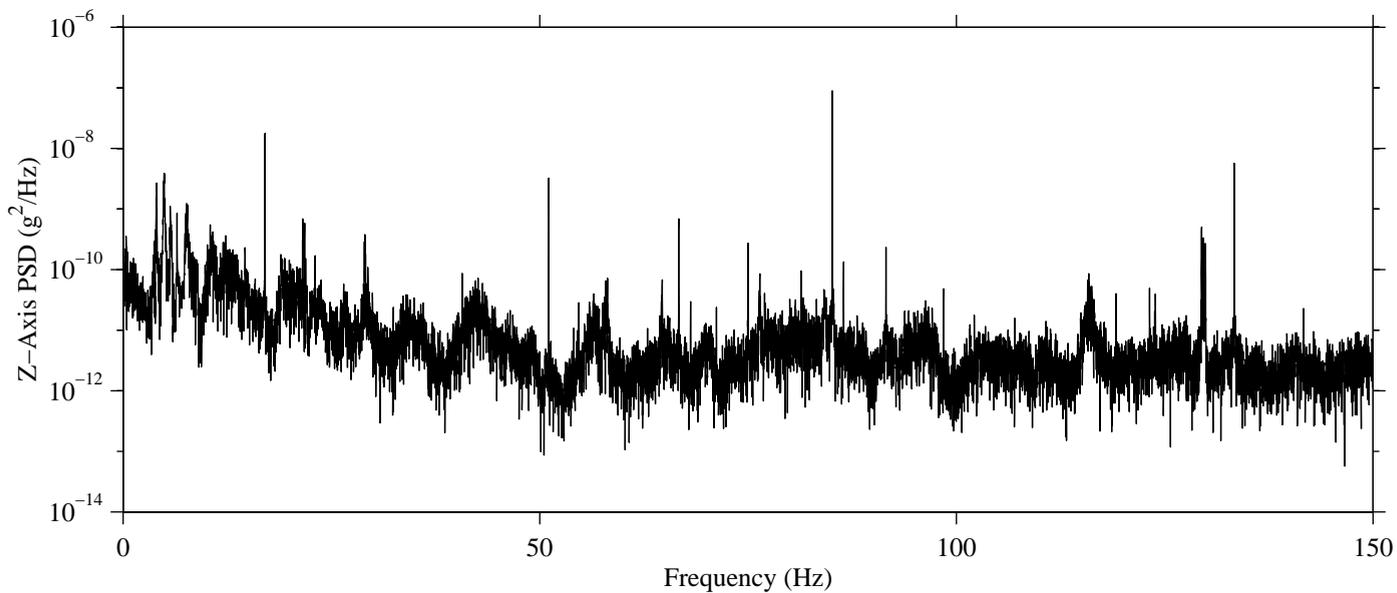
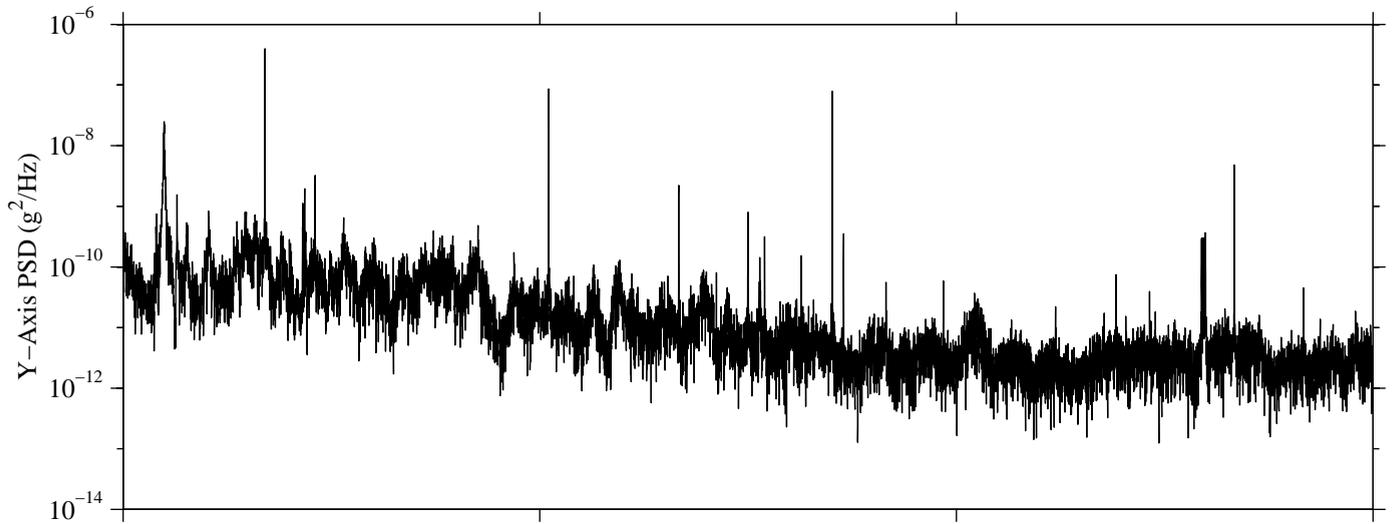
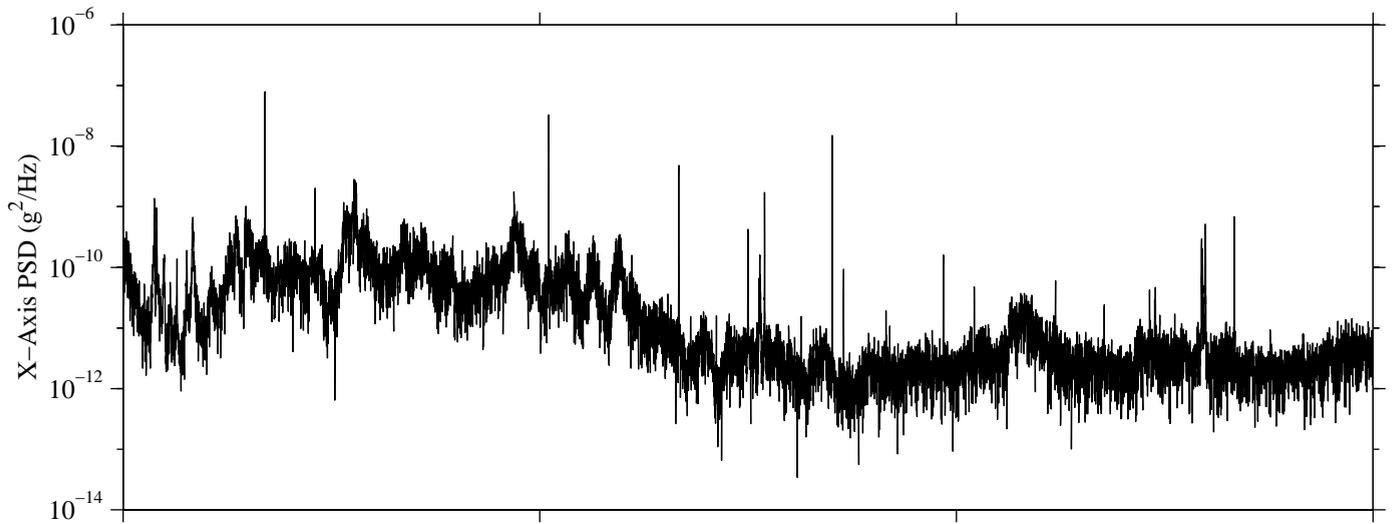
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #36  
MET Start at 008/03:41:49.124 (Hanning Window, k=3)

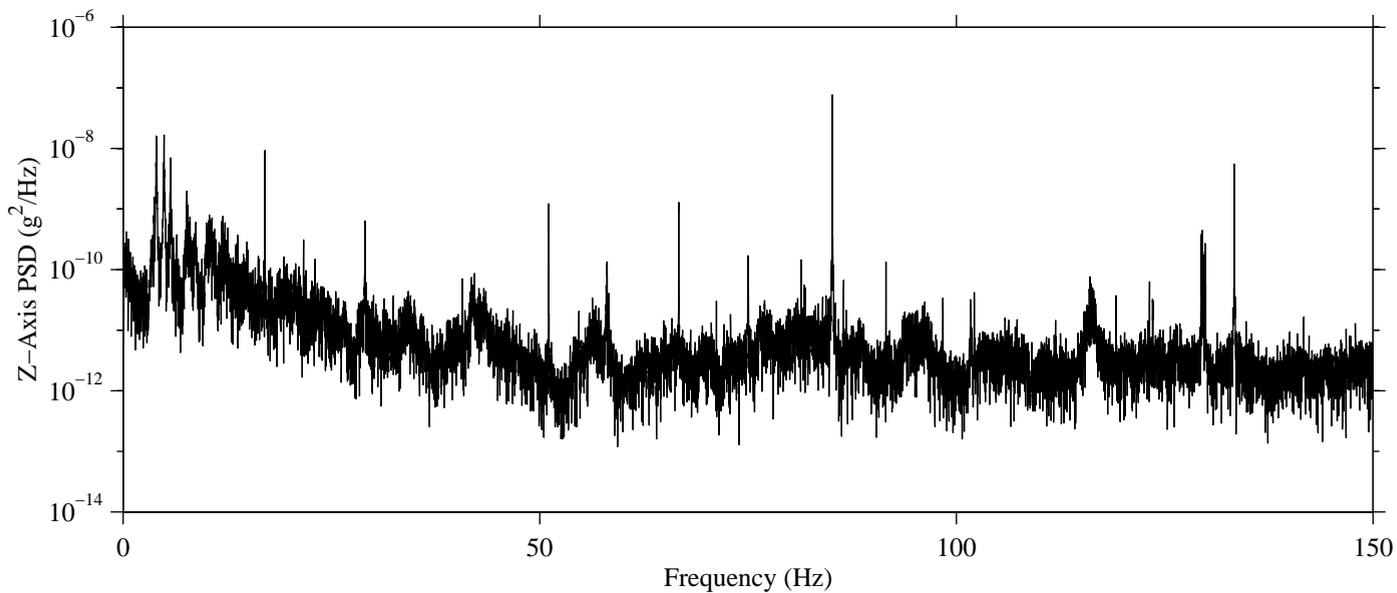
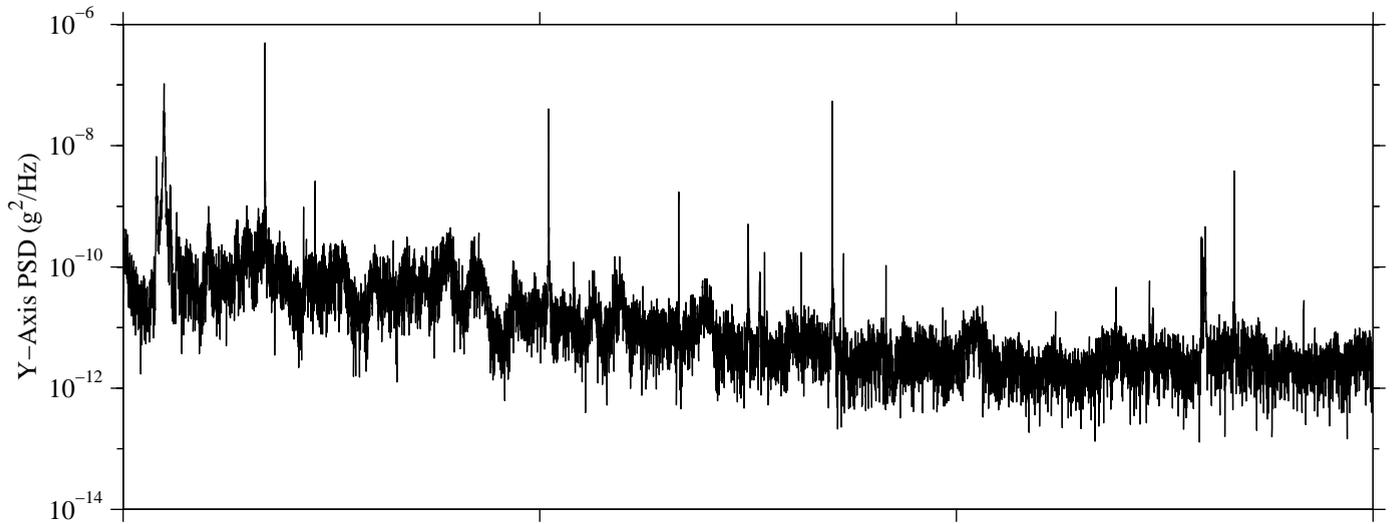
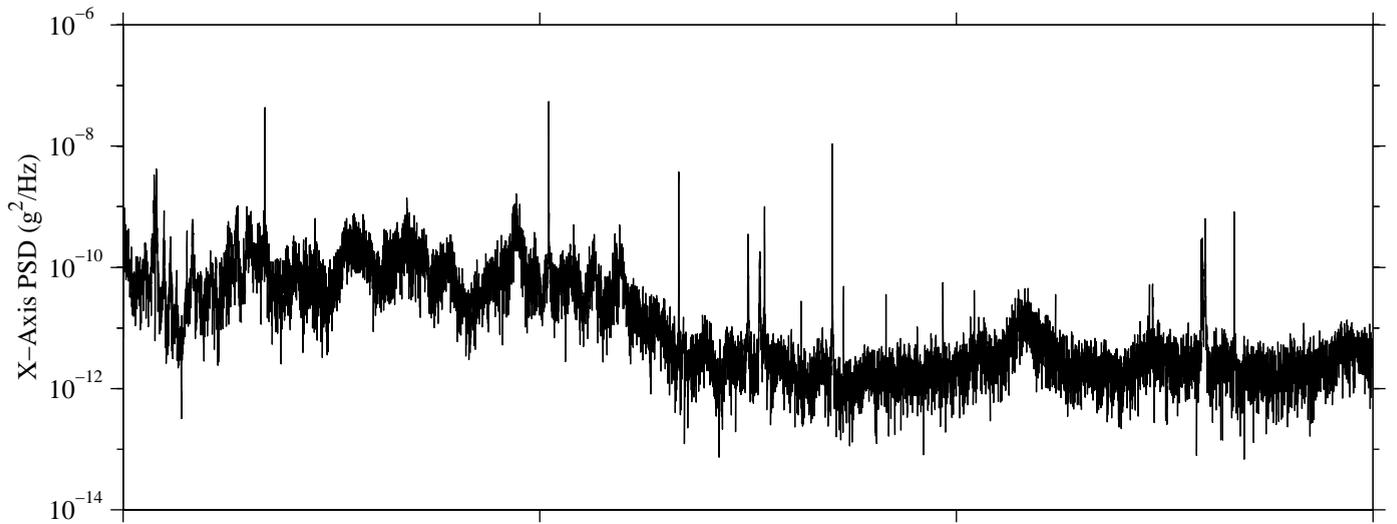
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #37  
MET Start at 008/03:47:22.101 (Hanning Window, k=3)

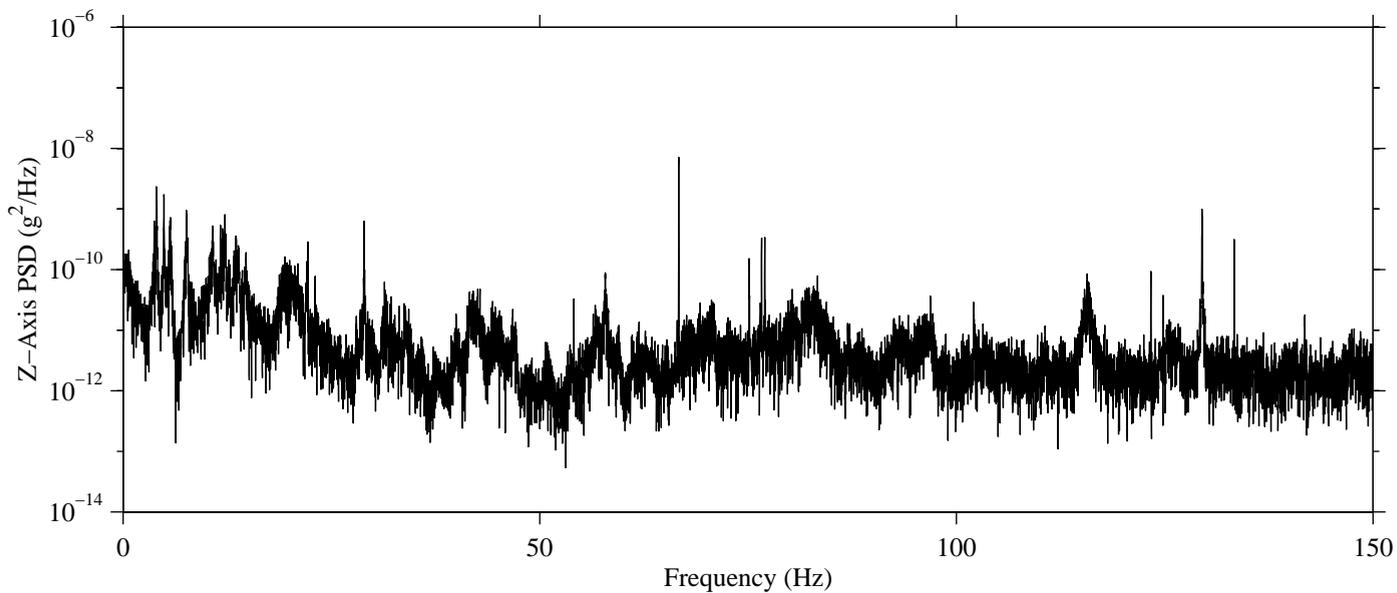
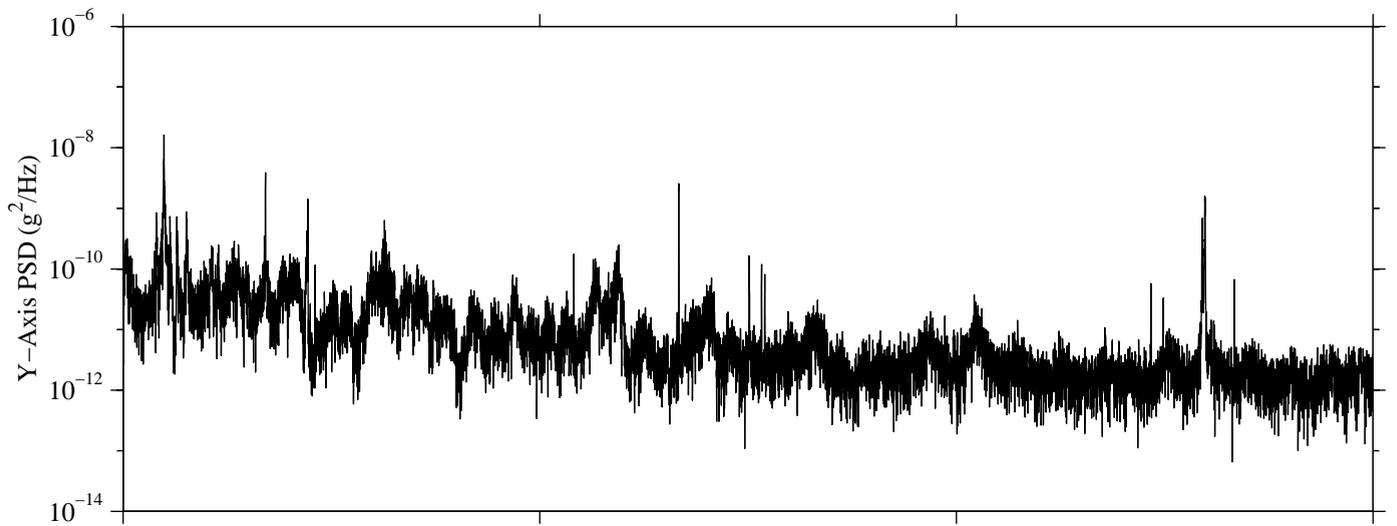
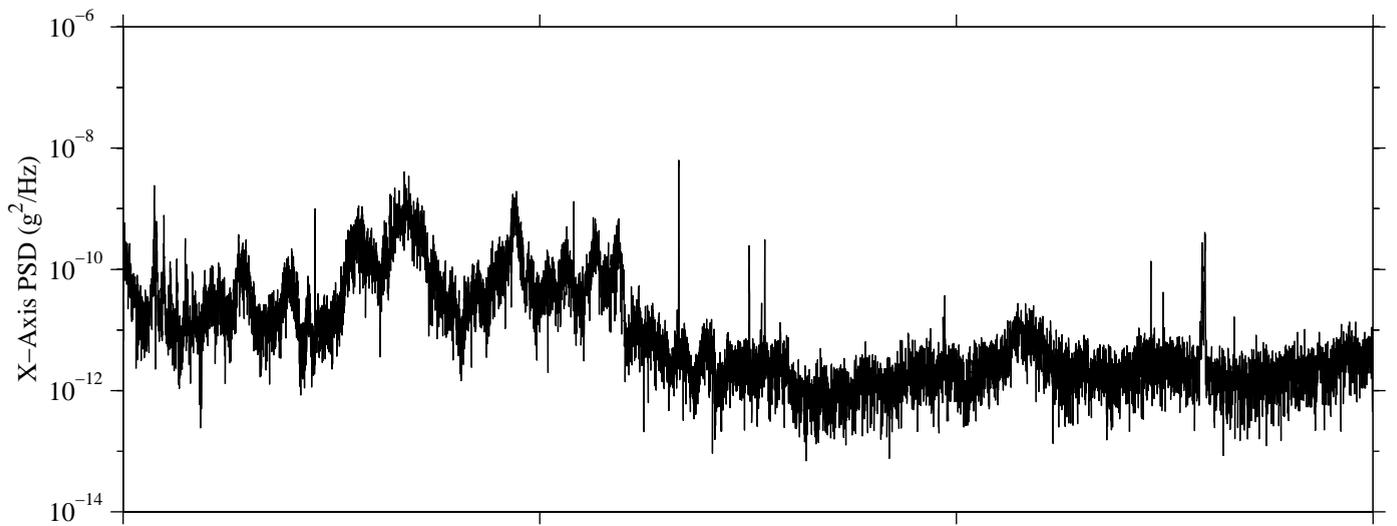
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #38  
MET Start at 008/05:54:41.840 (Hanning Window, k=3)

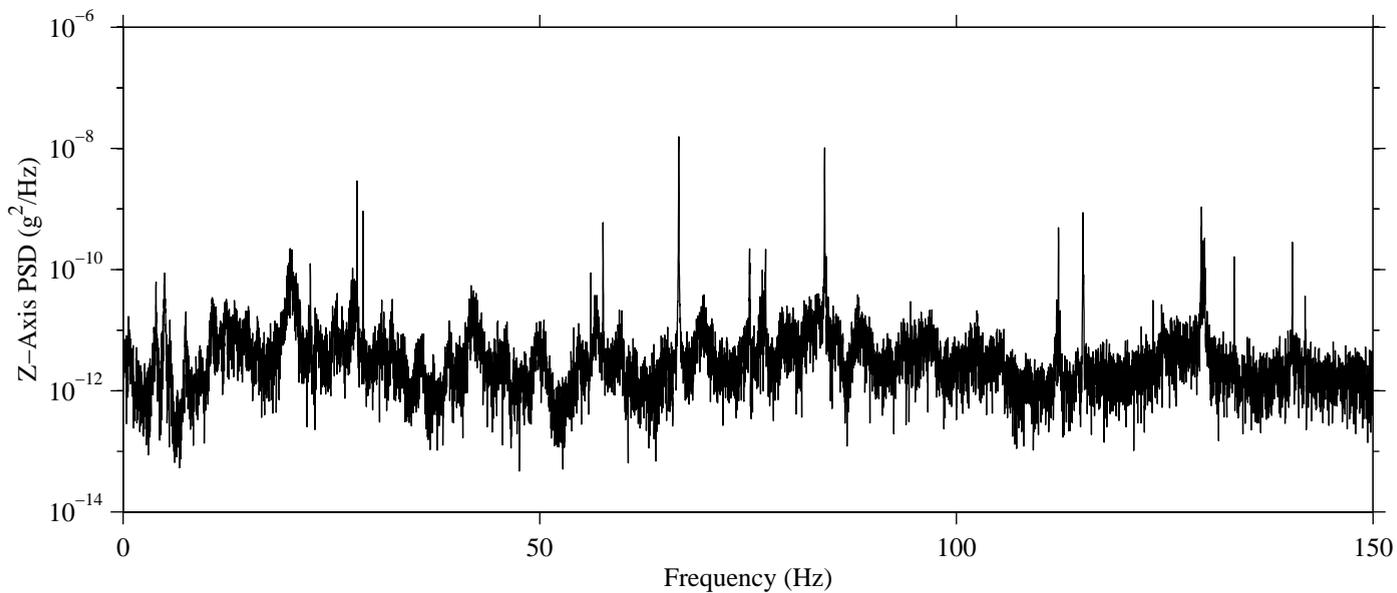
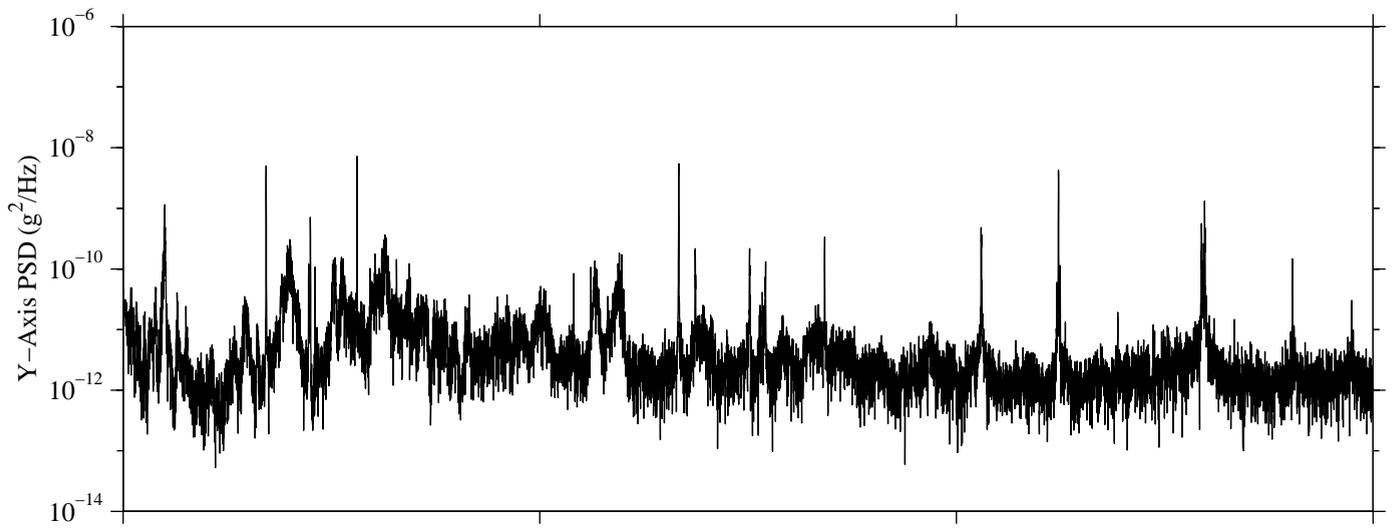
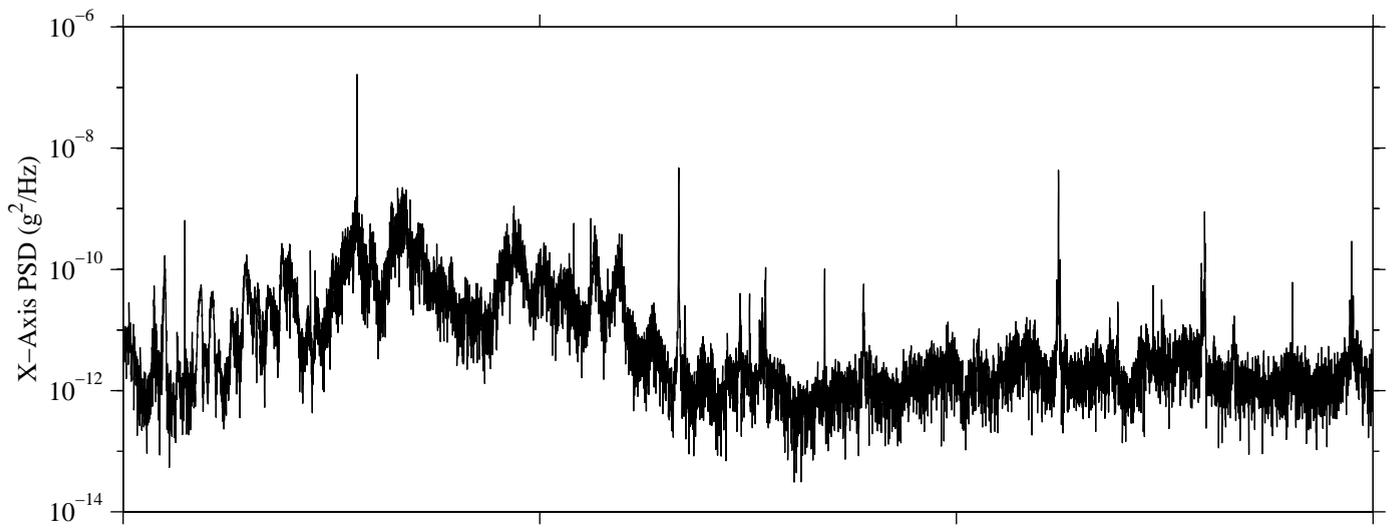
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #39  
MET Start at 008/07:39:52.814 (Hanning Window, k=3)

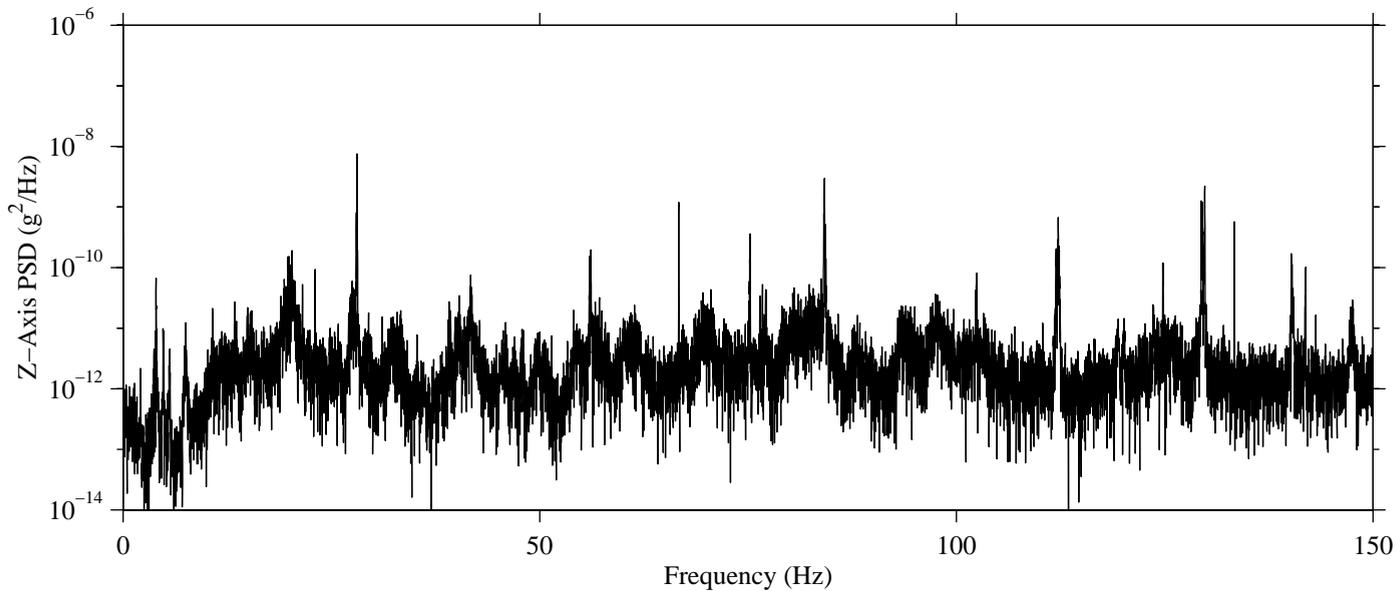
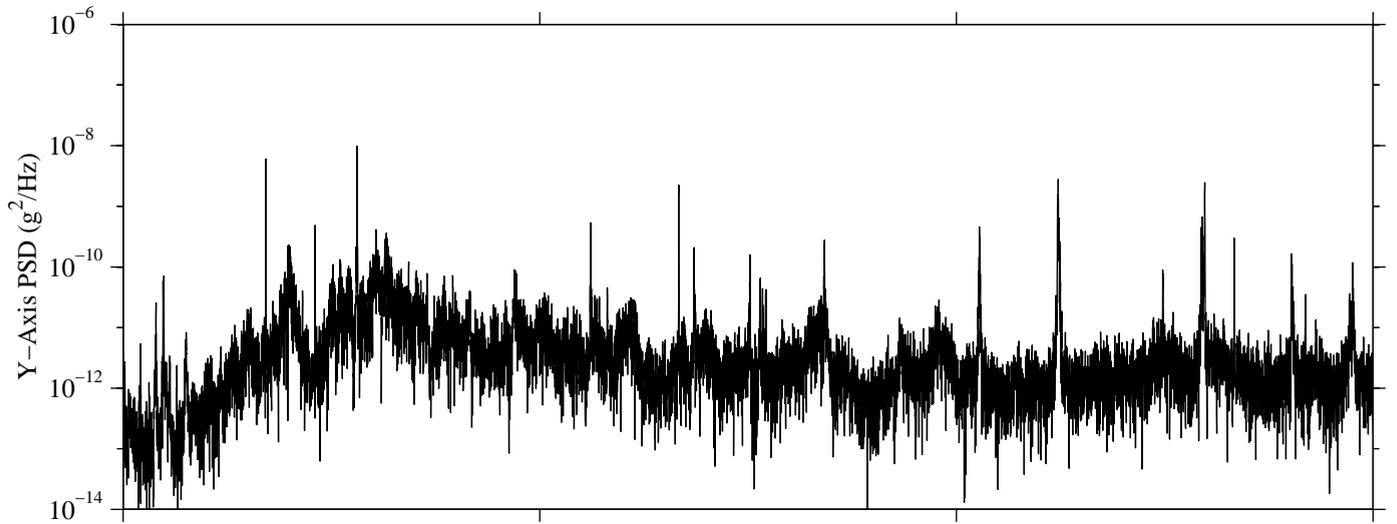
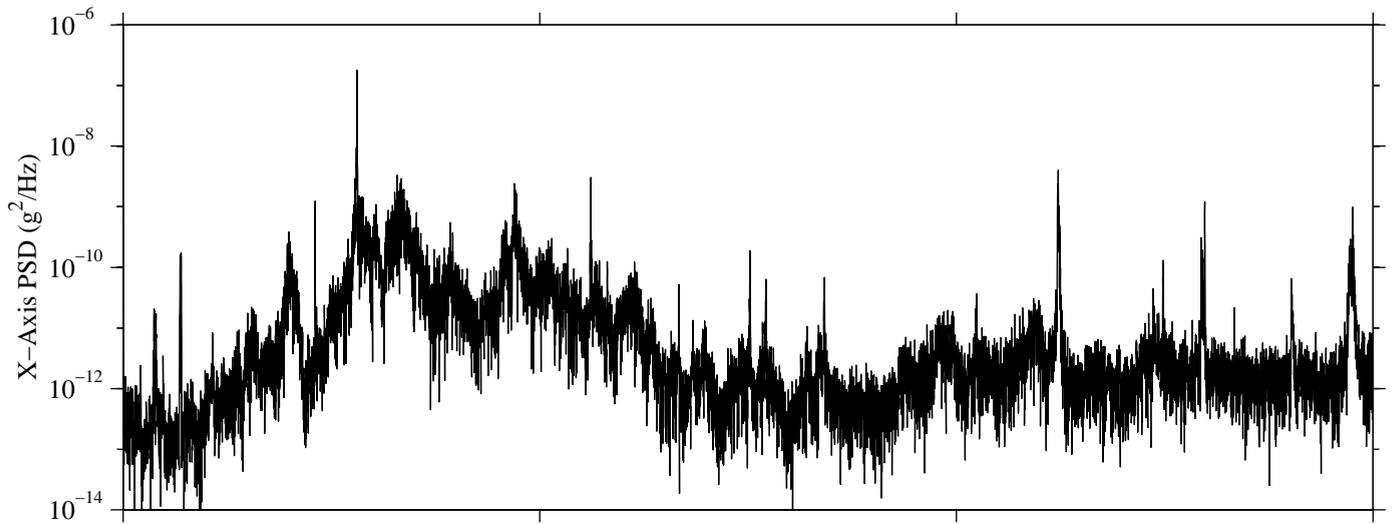
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 104.8 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #40  
MET Start at 008/10:01:40.420 (Hanning, k=2)

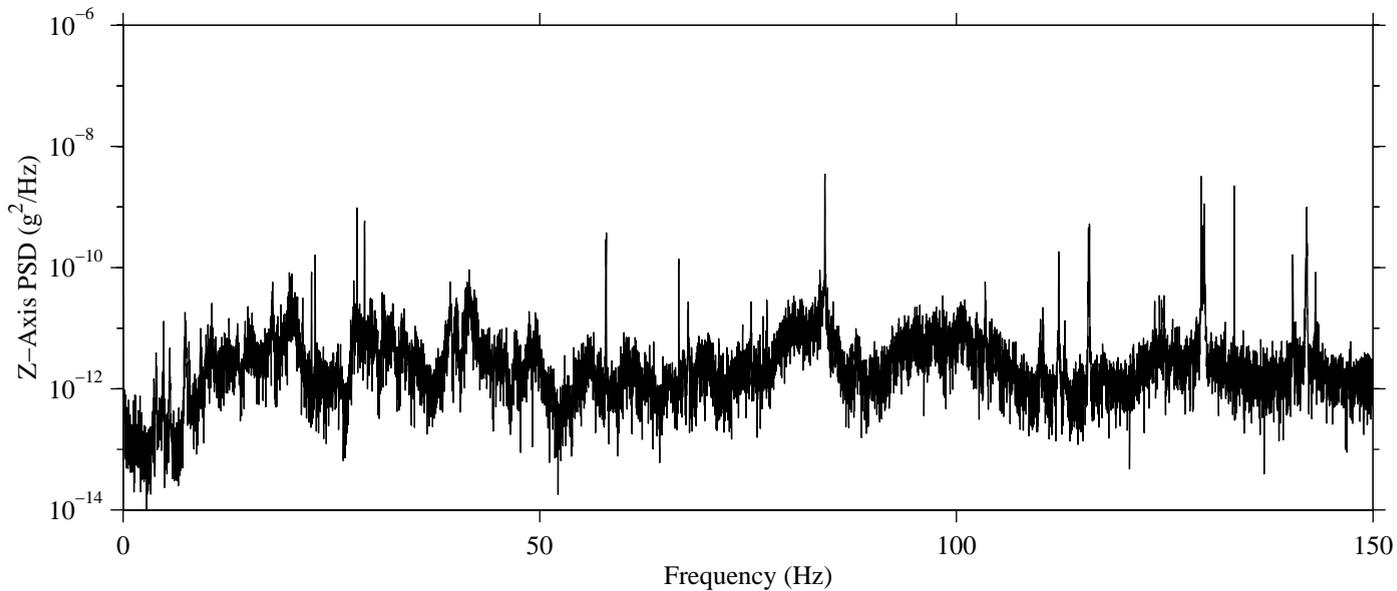
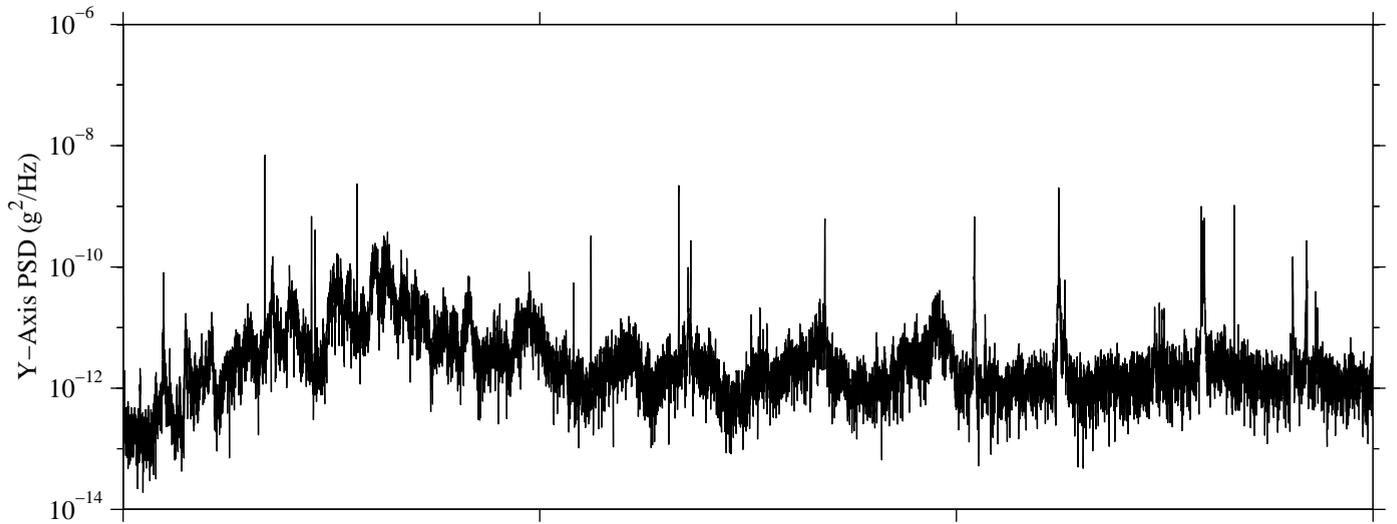
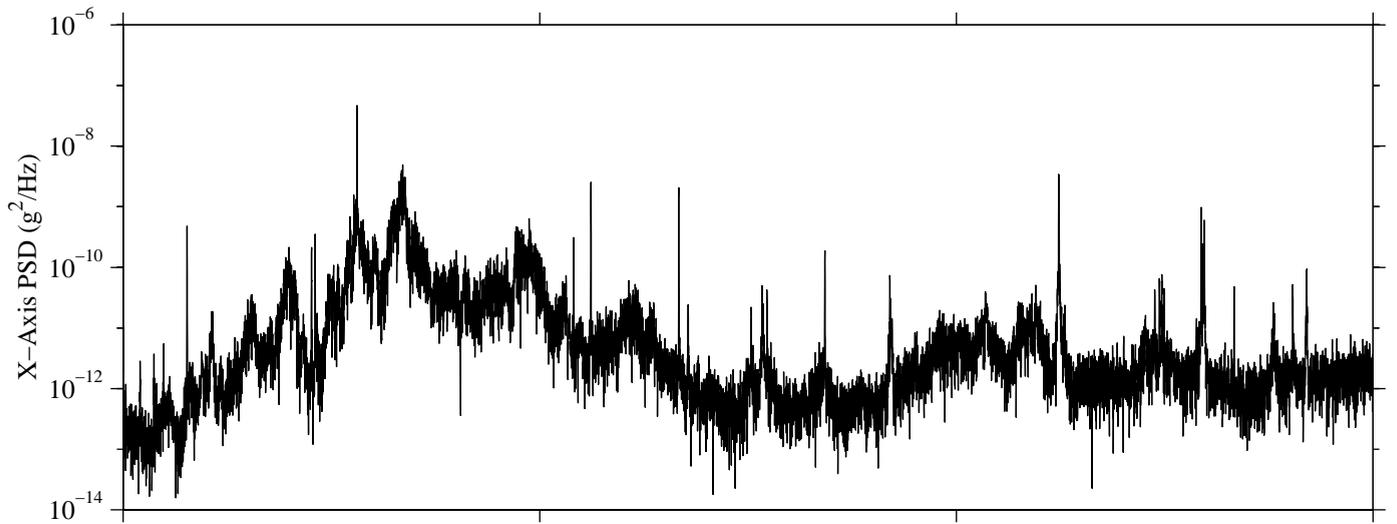
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=200.0 seconds



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #41  
MET Start at 008/12:47:41.959 (Hanning Window, k=3)

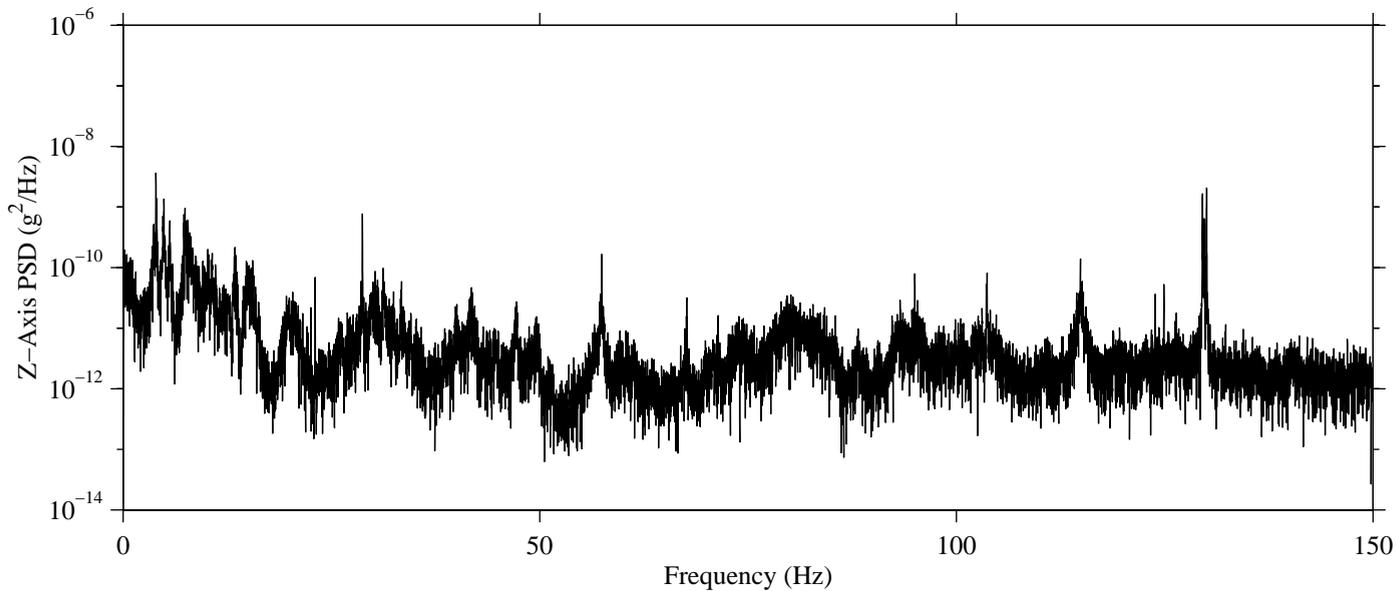
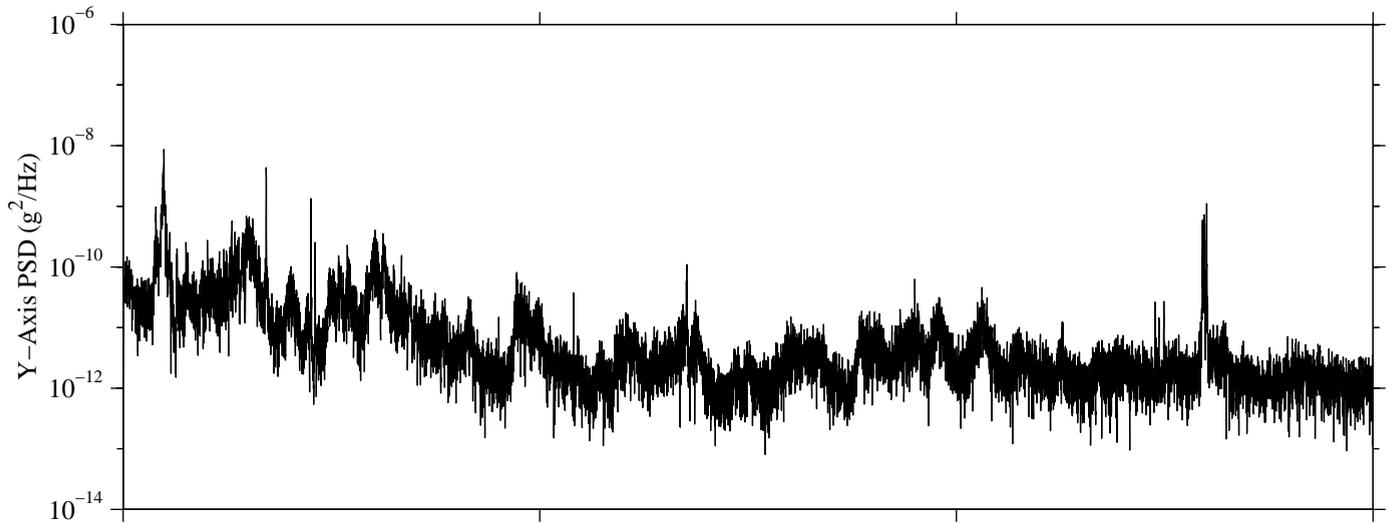
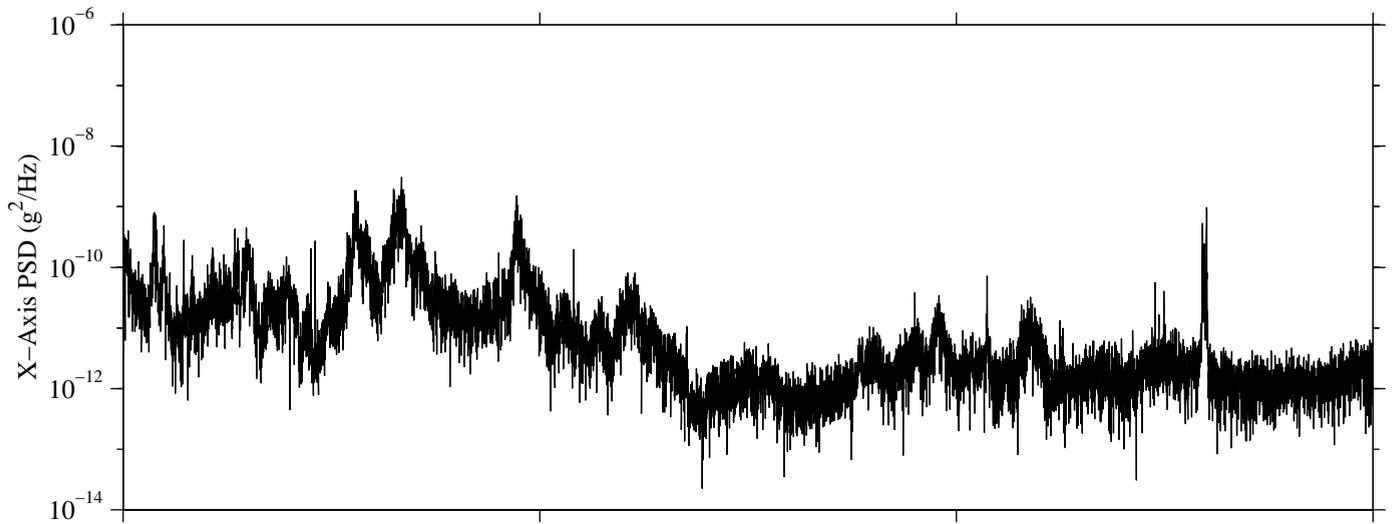
STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #42  
MET Start at 008/14:29:33.540 (Hanning Window, k=3)

STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes



Head SAMS-FF, TSH 1, 150 Hz  
fs=400 samples per second  
df=0.0122 Hz

Session #43  
MET Start at 008/14:34:20.521 (Hanning Window, k=3)

STS-95, HOST Mission  
SAMS-FF Coordinates  
T=4.1 minutes

